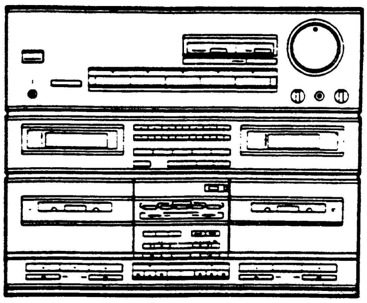
PIONEER
The future of sound and vision.

Service Manual



ORDER NO.
ARP1687

STEREO DOUBLE CASSETTE TAPE DECK AMPLIFIER

DC-Z92

MODEL DC-Z92 HAS SIX VERSIONS:

Type	Power requirement	Export destination
HB	AC220V,240V(swithcable)*	United Kingdom
HE	AC220V,240V(swithcable)*	European continent
HEZ	AC220V,240V(swithcable)*	West Germany
SD	AC110V,120V-127V,220V,240V(swithcable)	Kingdom of SaudiArabia and general market
YP	AC240V only	Australia
KU	AC120V only	U.S.A.

*Change the jumper wires of assembly boards.

- This manual is applicable to the DC-Z92/HB ,HE and SD types.
- For HE and SD types,refer to pages 81-84.
- For the other types,refer to additional service manuals.
- Ce manual pour le service comprend les explications en français de réglage.
- Este manual de servicio trata del métode ajuste escrito en español.

CONTENTS

1.SAFTY INFORMATION ………………… 2
2.P.C.BOARDS LOCATION …………… 3
3.EXPLODED VIEWS,PACKING AND PARTS LIST ………………………… 6
4.SCHEMATIC DIAGRAM AND P.C.BOARDS CONNECTION DIAGRAM ………………………………………18
5.ELECTRICAL PARTS LIST ………53
6.ADJUSTMENTS ………………………… 59
RÉGLAGE ……………………………………64
AJUSTE ………………………………………69
7.IC INFORMATION …………………………74
8.FOR HE AND SD TYPES ………… 81
9.CONNECTIONS ……………………………85
10.PANEL FACILITIES ………………… 87
11.SPECIFICATIONS ………………………91

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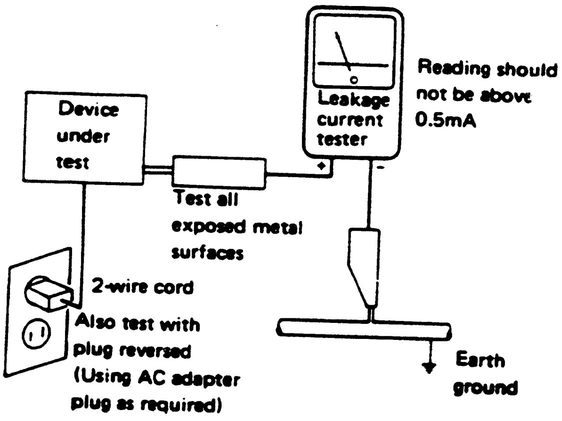
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Device under test
Leakage current tester
Reading should not be above 0.5mA
+
-
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

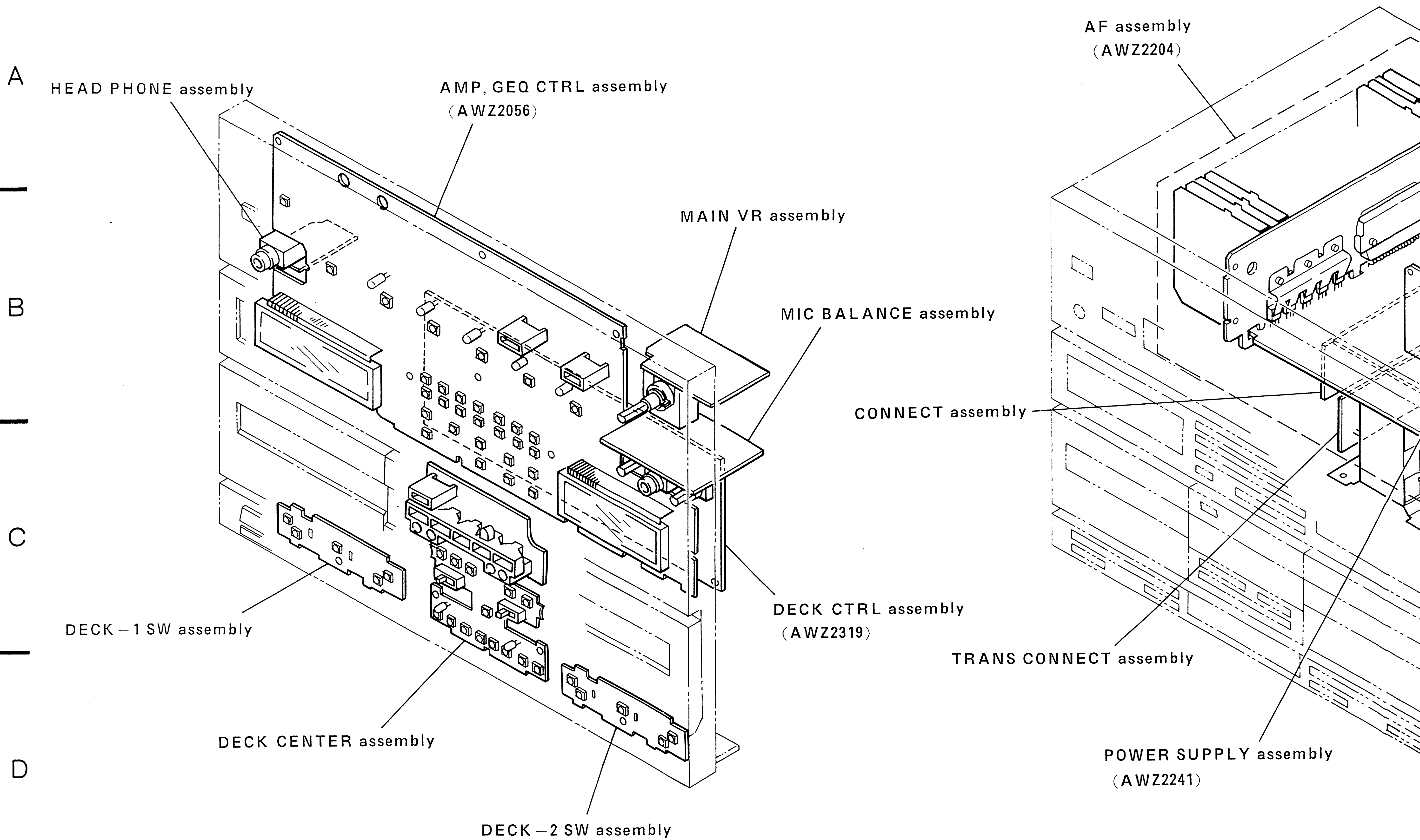
Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. P.C.BOARDS LOCATION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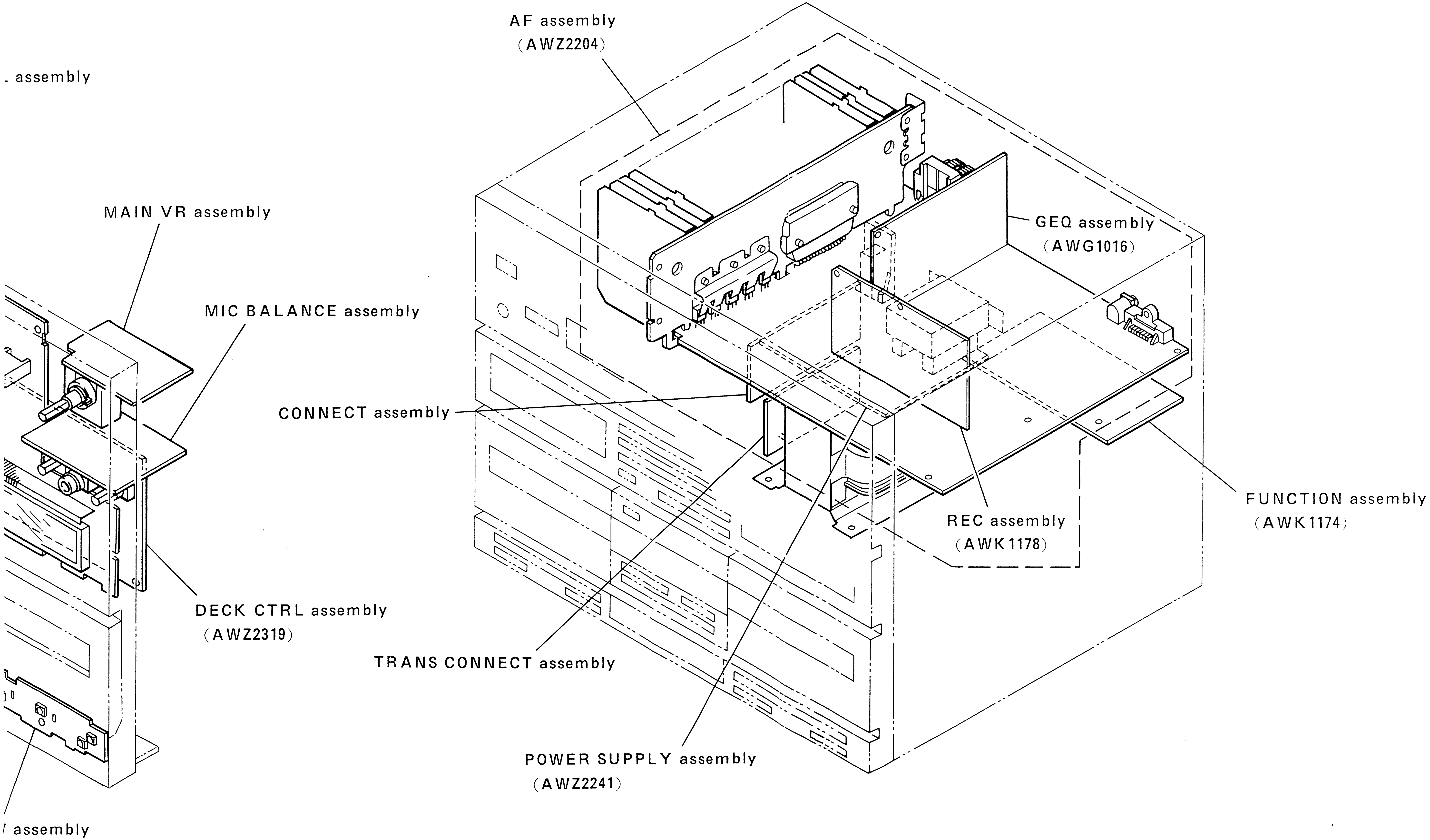
HEAD PHONE assembly
AMP, GEQ CTRL assembly
(AWZ2056)
MAIN VR assembly
MIC BALANCE assembly
DECK CTRL assembly
(AWZ2319)
DECK-1 SW assembly
DECK CENTER assembly
DECK-2 SW assembly
AF assembly
(AWZ2204)
CONNECT assembly
TRANS CONNECT assembly
POWER SUPPLY assembly
(AWZ2241)


AF assembly
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MAIN VR assembly
MIC BALANCE assembly
GEQ assembly
(AWG1016)
CONNECT assembly
FUNCTION assembly
(AWK1174)
REC assembly
(AWK1178)
DECK CTRL assembly
(AWZ2319)
TRANS CONNECT assembly
POWER SUPPLY assembly
(AWZ2241)
/ assembly

3. EXPLODED VIEWS,PACKING AND PARTS LIST

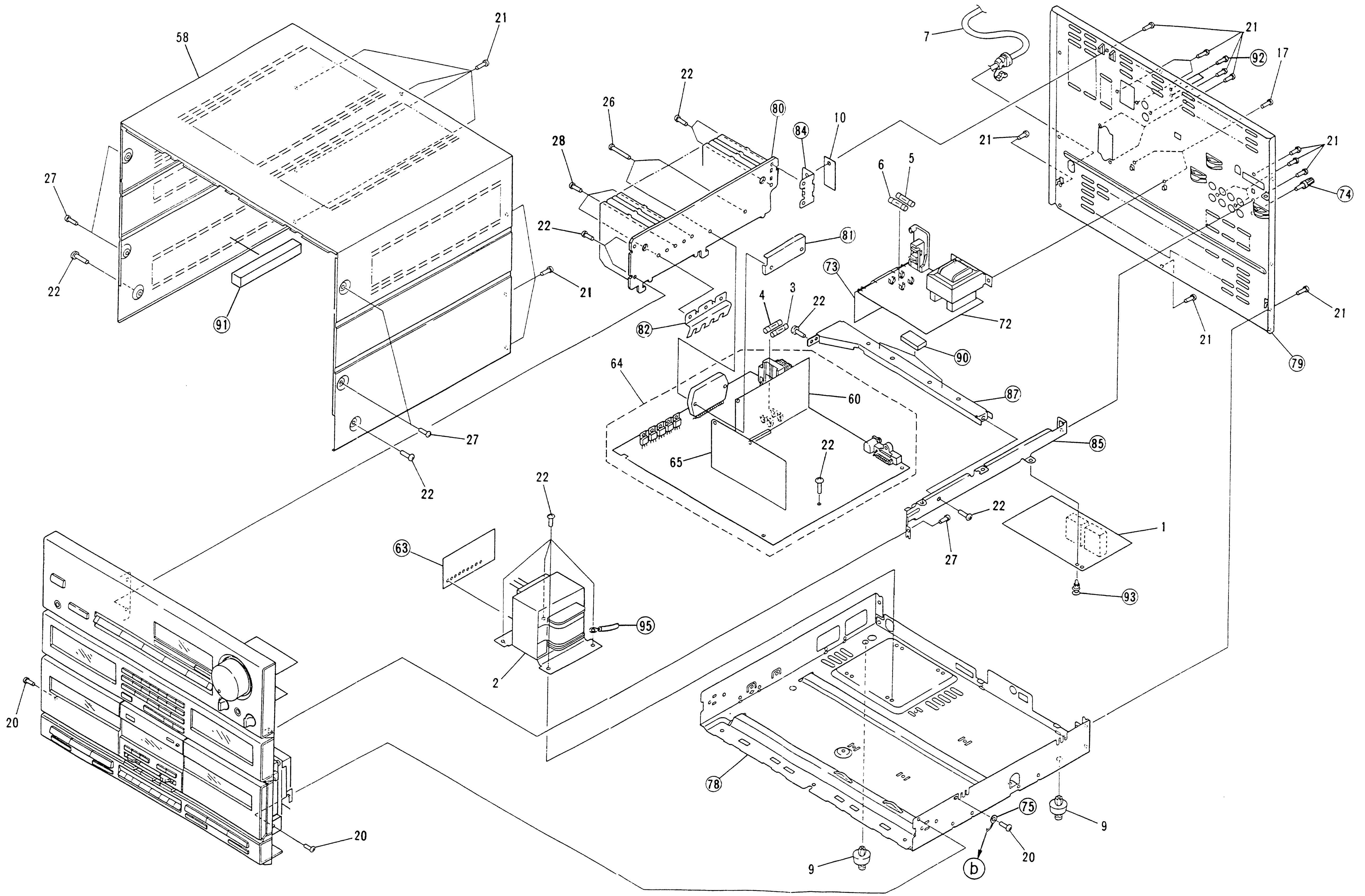
3.1 PARTS LIST OF MAIN BODY SECTION, FRONT PANEL SECTION AND PACKING

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Mark	No.	Part No.	Description
	1	AWK1174	FUNCTION ASSY
⚠	2	ATS1184	POWER TRANSFORMER
⚠	3	AEK-509	FUSE(T1.25A)FU2004
⚠	4	AEK-509	FUSE(T1.25A)FU2005
⚠	5	AEK-510	FUSE(T1.6A) FU2003
⚠	6	AEK-511	FUSE(T2A)FU2001
⚠	7	ADG-063	AC POWER CORD
	8	AAW1007	COUNTER
	9	AEC-847	LEG ASS'Y
	10	ABF1013	WASHER (PAPER)
	11	ABH1050	SPRING1 (L)
	12	ABH1051	SPRING2 (R)
	13	AEB1085	COUNTER BELT
	14	AMR1656	EJECT LEVER-1 (L)
	15	AMR1657	EJECT LEVER-2 (R)
	16	AXA1005	DAMPER ASSEMBLY
	17	ABA1084	SCREW
	18	ABA1085	SCREW
	19	BBZ26P080FMC	SCREW
	20	BBZ30P060FMC	SCREW
	21	BBZ30P080FCU	SCREW
	22	BBZ30P080FZK	SCREW
	23	BPZ26P080FMC	SCREW
	24	NK90FUC	NUT
	25	VBH30P080FMC	SCREW
	26	VBZ30P200FMC	SCREW
	27	VPZ30P080FZK	SCREW
	28	VTZ30P100FZK	SCREW
	29	AMB1439	FRONT PANEL ASSEMBLY
	30	AAK1629	INDICATOR LENS
	31	AAK1636	DECORATIVE PLATE(D)
	32	AAK1637	DECORATIVE PLATE(U)
	33	AAK1638	DECORATIVE PLATE(GEQ L)
	34	AAK1639	DECORATIVE PLATE(GEQ R)
	35	AAK1655	DECORATIVE PLATE(DECK)
	36	AAK1658	INDICATOR LENS B
	37	AAK1663	DECORATIVE PLATE(DOOR L)
	38	AAK1664	DECORATIVE PLATE(DOOR R)
	39	AAN1118	CASSETTE DOOR (R)
	40	AAN1119	CASSETTE DOOR (L)
	41	AAB1089	KNOB(VOLUME)
	42	AAB1090	KNOB
	43	AAD1521	BUTTON(POWER)
	44	AAD1522	BUTTON(DIRECT)
	45	AAD1523	BUTTON(FUNCTION)
	46	AAD1524	BUTTON(GEQ)
	47	AAD1525	BUTTON(PLAY)
	48	AAD1527	BUTTON(ASES)
	49	AAD1528	BUTTON(EJECT)
	50	AAD1530	BUTTON(REC)
	51	AAE1103	SLIDE KNOB
	52	ARB1156	OPERATING INSTRUCTIONS
	53	AXD1087	REMOTE CONTROL UNIT
	54	ARM1003	CAUTION CARD
	55	AHA1234	PAD(L)
	56	AHA1235	PAD(R)
	57	AHD1584	PAKING CASE
	58	ANE1182	BONNET
	59		MIC BALANCE ASSY
	60	AWG1016	GEQ ASSY
	61		MAIN VR ASSY
	62		HEAD PHONE ASSY
	63		TRANS CONNECT ASSY
	64	AWZ2204	AF ASSY
	65	AWK1178	REC ASSY
	66	AWZ2056	AMP, GEQ CTRL ASSY
	67		DECK-1 SW ASSY
	68		DECK-2 SW ASSY
	69	AWZ2319	DECK CTRL ASSY
	70		DECK CENTER ASSY
	71		
	72	AWZ2241	POWER SUPPLY ASSY
	73		CONNECT ASSY
	74		TERMINAL SCREW
	75		EARTH LEAD
	76		MECHA UNIT 1
	77		MECHA UNIT 2
	78		CHASSIS
	79		REAR PANEL
	80		HEAT SINK
	81		PLATE
	82		PLATE
	83		PLATE A
	84		PLATE B
	85		PLATE
	86		PLATE
	87		PLATE
	88		SHIELD PLATE
	89		KEEP PLATE
	90		CUSHION
	91		RUBBER
	92		PCB SPACER
	93		NYLON REVET
	94		SPACER
	95		BINDER
	96		……………
	97		……………
	98		……………
	99		"AAA" DRY CELL
	100		WARRANTY CARD
	101		SHEET
	102		SHEET

3.2 EXTERIOR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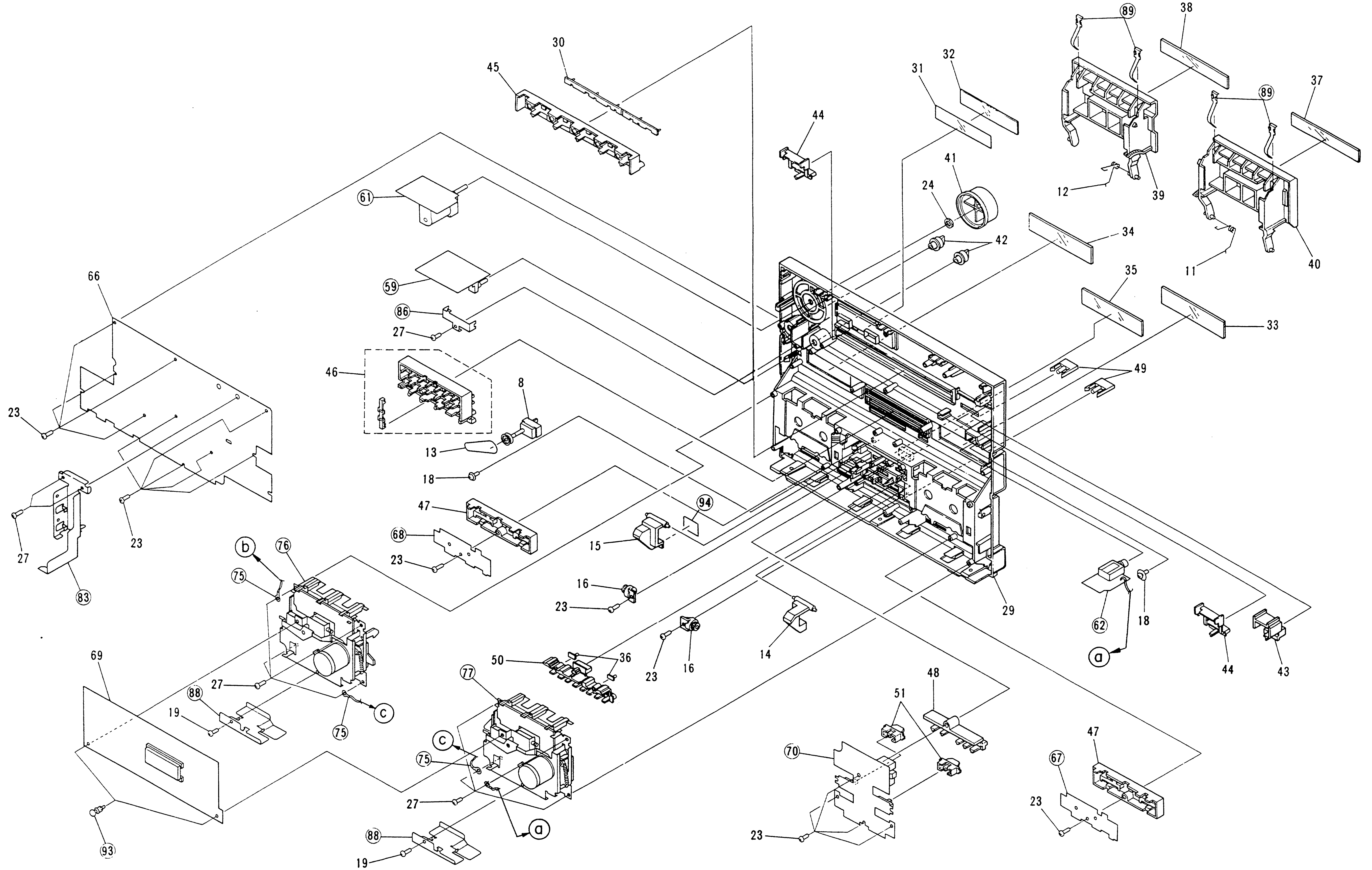
3.3 FRONT PANEL SECTION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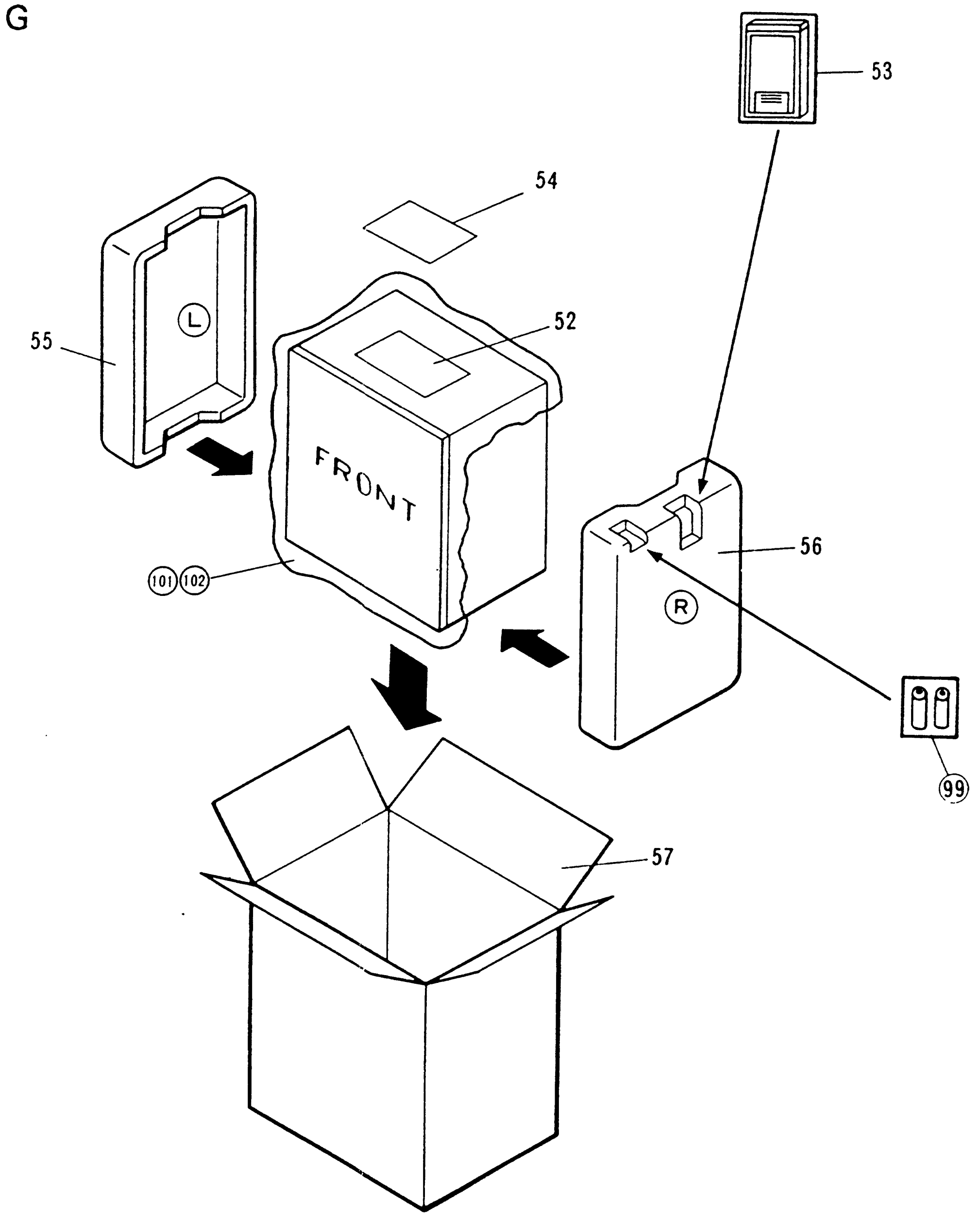
3.4 PACKING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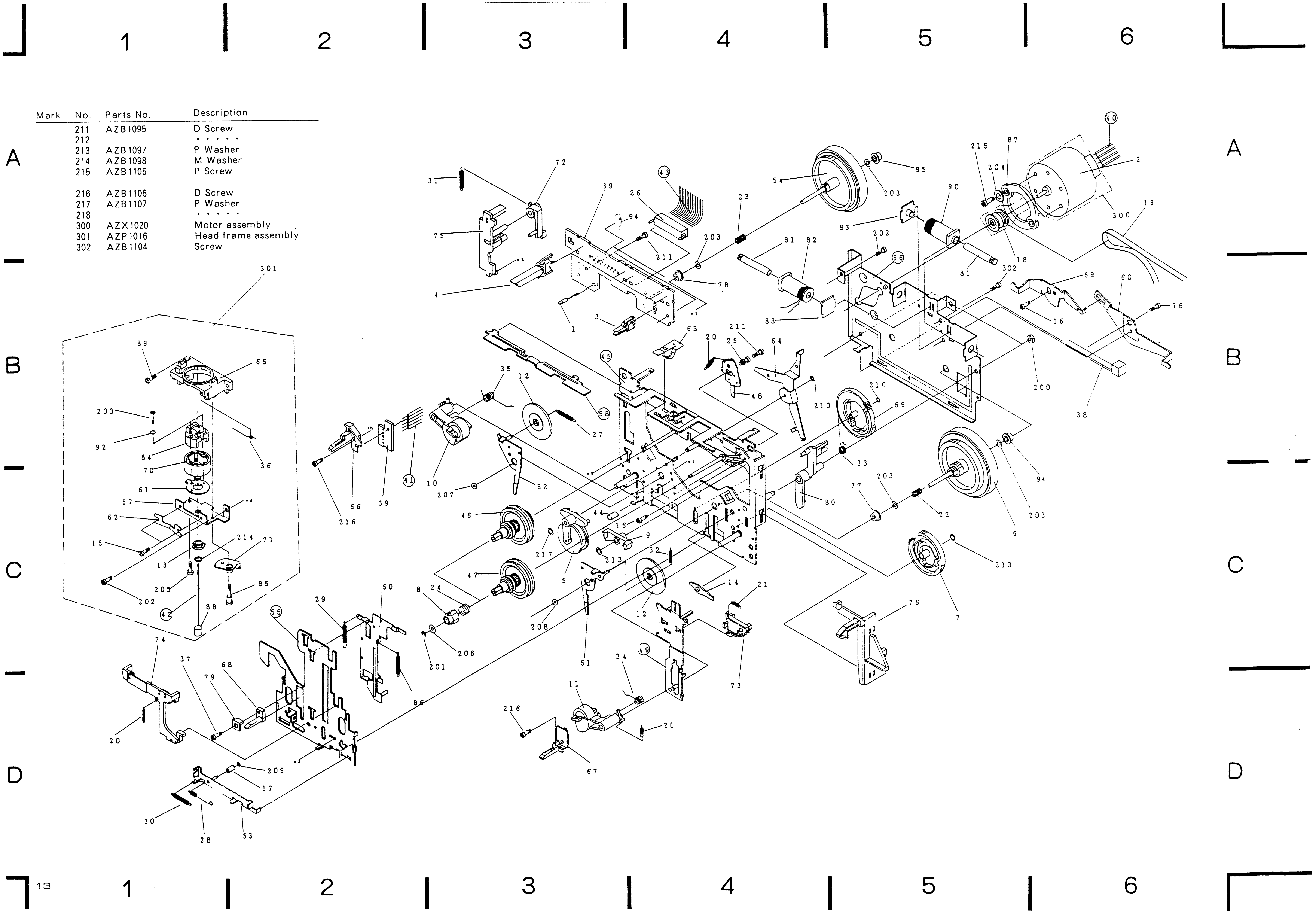
Parts list of Remote control Unit(AXD1087)

Mark	No.	Parts No.	Description
		AZN1846	Battery cover

3.5 MECHA UNIT 1

Mark	No.	Parts No.	Description
	1	AZE1018	Hall IC
	2	AZX1019	Motor
	3	AZS1054	Leaf SW(MODE)
	4	AZS1034	Leaf SW (ARF,HALF,METAL . CrO2, ARR)
	5	AZN1286	Drive arm assembly
	6	AZN1287	FW assembly A
	7	AZN1288	Cam gear
	8	AZN1289	Reel
	9	AZN1290	FR arm
	10	AZN1797	P arm L assembly
	11	AZN1798	P arm R assembly
	12	AZN1293	Gear
	13	AZN1294	H Gear
	14	AZN1793	CUE arm
	15	AZB1079	Screw
	16	AZB1080	Screw
	17	AZB1296	Collar C
	18	AZN1297	Motor pully
	19	AZN1298	Belt
	20	AZN1299	Spring
	21	AZN1300	FR lever spring
	22	AZN1301	FWF spring
	23	AZN1302	FWR spring
	24	AZN1303	Spring
	25	AZB1088	Collar
	26	AZN1305	Cable holder
	27	AZN1306	Spring
	28	AZN1307	Spring
	29	AZN1308	Spring
	30	AZN1309	Spring
	31	AZN1310	Spring
	32	AZN1311	Spring
	33	AZN1312	Spring
	34	AZN1313	Spring
	35	AZN1314	Spring
	36	AZN1315	Spring
	37	AZB1081	Screw
	38	AZN1316	Nylon band
	39	AZN1836	P.C.Board
	40		Jumper wire
	41		Head lead
	42		Lead wire
	43		Lead wire
	44	AZN1468	Tube
	45		Mecha P.C.Board calking assembly
	46	AZN1319	R Reel assembly
	47	AZN1320	F Reel assembly
	48	AZN1321	Reverse arm calking assembly
	49		FR lever calking assembly
	50	AZN1795	PLAY lever calking assembly
	51	AZN1324	Gear arm R calking assembly
	52	AZN1325	Gear arm L calking assembly
	53	AZN1326	Head lever calking assembly
	54	AZN1327	FW assembly
	55		Head P.C.Board
		HALL	EFFECT ELEMENT
	56		Plate(FLYWHEEL)
	57	AZN1328	Azimuth plate
	58		SW arm
	59	AZN1356	Eject arm L
	60	AZN1357	Eject arm R
			MOTOR
	61	AZN1330	Head arm
	62	AZN1331	Azimuth spring
	63	AZN1332	Cassette stopper
	64	AZN1333	Play trigger calking assembly
	65	AZN1334	Head frame
			SOLENOID A
	66	AZN1335	Cassette guide L
	67	AZN1336	Cassette guide R
	68	AZN1337	Cassette guide
	69	AZN1338	Cam gear
	70	AZN1469	Head holder
			SOLENOID B
	71	AZN1340	Head gear
	72	AZN1341	Eject arm
	73	AZN1342	Select lever
	74	AZN1343	Brake
	75	AZN1344	Eject lever L
	76	AZN1345	Ratch lever R
	77	AZN1346	Metal
	78	AZN1347	Metal
	79	AZN1348	Cushion
	80	AZN1349	Trigger arm
	81	AZN1350	Plunger
	82	AZS1035	Bobbin
	83	AZN1351	Solenoid plate calking assembly
	84	AZP1014	R/P/E Head
	85	AZB1099	Screw
	86	AZN1352	Spring
	87	AZN1304	Spacer
	88	AZN1470	Tube
	89	AZB1100	Screw
	90	AZS1036	Bobbin
	91	AZB1101	Screw
	92	AZB1102	Spring washer
	93		• • • • •
	94	AZN1833	Capstan holder
	95	AZN1834	Capstan holder
	200	AZB1084	Nut
	201	AZB1085	E ring
	202	AZB1086	D Screw
	203	AZB1121	P Washer
	204	AZB1087	N Washer
	205	AZB1089	U Screw
	206	AZB1090	P Washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209	AZB1093	P Washer
	210	AZB1094	P Washer

Mark	No.	Parts No.	Description
	211	AZB1095	D Screw
	212		• • • • •
	213	AZB1097	P Washer
	214	AZB1098	M Washer
	215	AZB1105	P Screw
	216	AZB1106	D Screw
	217	AZB1107	P Washer
	218		• • • • •
	300	AZX1020	Motor assembly
	301	AZP1016	Head frame assembly
	302	AZB1104	Screw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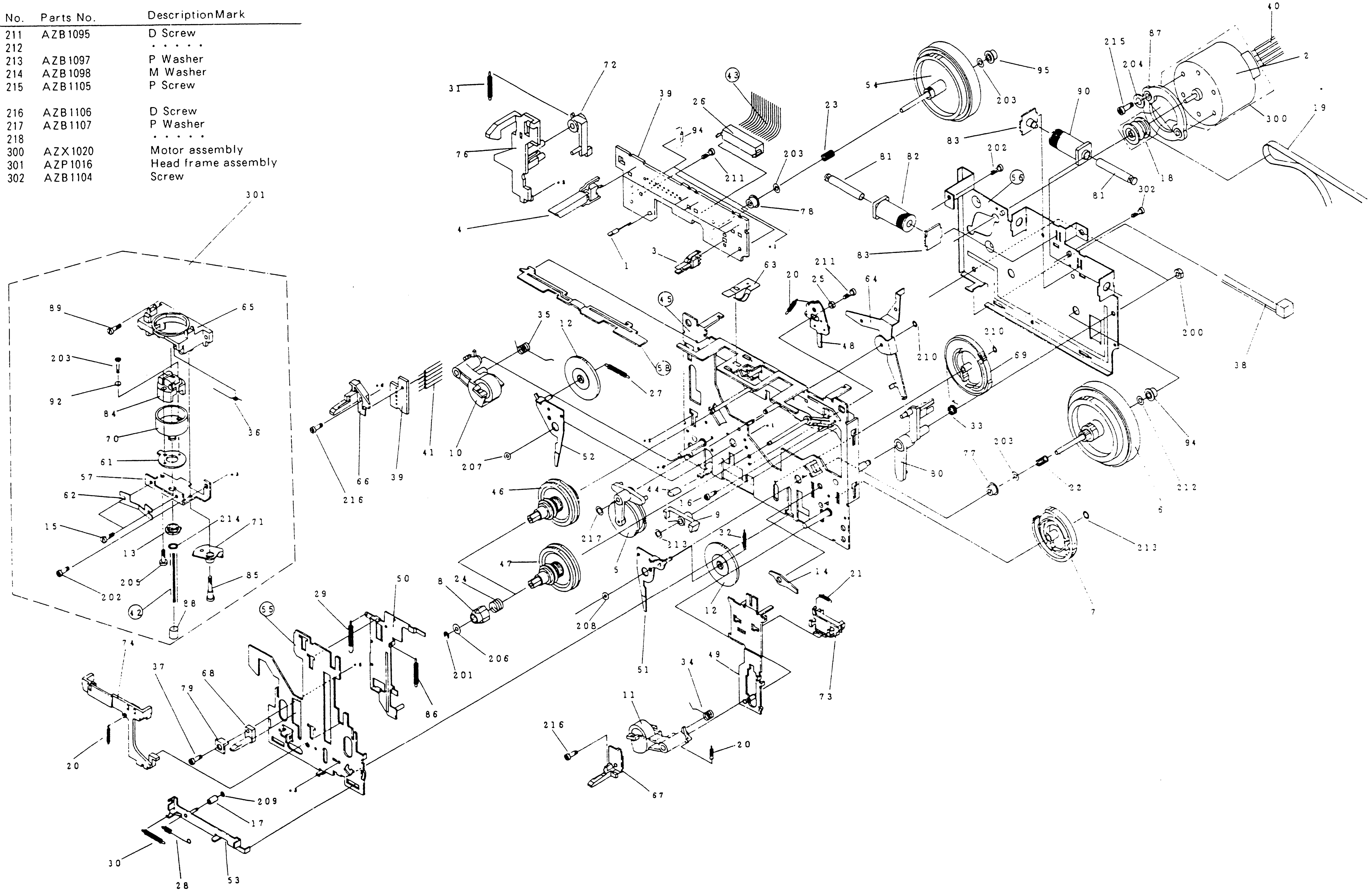
3.6 MECHA UNIT 2

Mark	No.	Parts No.	Description
	1	AZE1018	Hall IC
	2	AZX1019	Motor
	3	AZS1054	Leaf SW(MODE)
	4	AZS1034	Leaf SW (ARF,HALF,METAL, CrO2, ARR)
	5	AZN1286	Drive arm assembly
	6	AZN1287	FW assembly A
	7	AZN1288	Cam gear
	8	AZN1289	Reel
	9	AZN1290	FR arm
	10	AZN1797	P arm L assembly
	11	AZN1798	P arm R assembly
	12	AZN1293	Gear
	13	AZN1294	H Gear
	14	AZN1793	CUE arm
	15	AZB1079	Screw
	16	AZB1080	Screw
	17	AZB1296	Collar C
	18	AZN1297	Motor pully
	19	AZN1298	Belt
	20	AZN1299	Spring
	21	AZN1300	FR lever spring
	22	AZN1301	FWF spring
	23	AZN1302	FWR spring
	24	AZN1303	Spring
	25	AZB1088	Collar
	26	AZN1305	Cable holder
	27	AZN1306	Spring
	28	AZN1307	Spring
	29	AZN1308	Spring
	30	AZN1309	Spring
	31	AZN1310	Spring
	32	AZN1311	Spring
	33	AZN1312	Spring
	34	AZN1313	Spring
	35	AZN1314	Spring
	36	AZN1315	Spring
	37	AZB1081	Screw
	38	AZN1316	Nylon band
	39	AZN1836	P.C.Board
	40		Jumper wire
	41		Head lead
	42		Lead wire
	43		Lead wire
	44	AZN1468	Tube
	45		Mecha P.C.Board calking assembly
	46	AZN1319	R Reel assembly
	47	AZN1320	F Reel assembly
	48	AZN1321	Reverse arm calking assembly
	49		FR lever calking assembly
	50	AZN1795	PLAY lever calking assembly
	51	AZN1324	Gear arm R calking assembly
	52	AZN1325	Gear arm L calking assembly

Mark	No.	Parts No.	Description
	53	AZN1326	Head lever calking assembly
	54	AZN1327	FW assembly
	55		Head P.C.Board
	56		Plate(FLYWHEEL)
	57	AZN1328	Azimuth plate
	58		SW arm
	59		………
	60		………
	61	AZN1330	Head arm
	62	AZN1331	Azimuth spring
	63	AZN1332	Cassette stopper
	64	AZN1333	Play trigger calking assembly
	65	AZN1334	Head frame
	66	AZN1335	Cassette guide L
	67	AZN1336	Cassette guide R
	68	AZN1337	Cassette guide
	69	AZN1338	Cam gear
	70	AZN1469	Head holder
	71	AZN1340	Head gear
	72	AZN1341	Eject arm
	73	AZN1342	Select lever
	74	AZN1343	Brake
	75		………
	76	AZN1353	Ratch lever R
	77	AZN1346	Metal
	78	AZN1347	Metal
	79	AZN1348	Cushion
	80	AZN1349	Trigger arm
	81	AZN1350	Plunger
	82	AZS1035	Bobbin
	83	AZN1351	Solenoid plate calking assembly
	84	AZP1014	R/P/E Head
	85	AZB1099	Screw
	86	AZN1352	Spring
	87	AZN1304	Spacer
	88	AZN1470	Tube
	89	AZB1100	Screw
	90	AZS1036	Bobbin
	91	AZB1101	Screw
	92	AZB1102	Spring washer
	93		• • • • •
	94	AZN1833	Capstan holder
	95	AZN1834	Capstan holder
	200	AZB1084	Nut
	201	AZB1085	E ring
	202	AZB1086	D Screw
	203	AZB1121	P Washer
	204	AZB1087	N Washer
	205	AZB1089	U Screw
	206	AZB1090	P Washer
	207	AZB1091	Oil cut
	208	AZB1092	Oil cut
	209	AZB1093	P Washer
	210	AZB1094	P Washer

Mark	No.	Parts No.	DescriptionMark
	211	AZB1095	D Screw
	212		• • • • •
	213	AZB1097	P Washer
	214	AZB1098	M Washer
	215	AZB1105	P Screw
	216	AZB1106	D Screw
	217	AZB1107	P Washer
	218		• • • • •
	300	AZX1020	Motor assembly
	301	AZP1016	Head frame assembly
	302	AZB1104	Screw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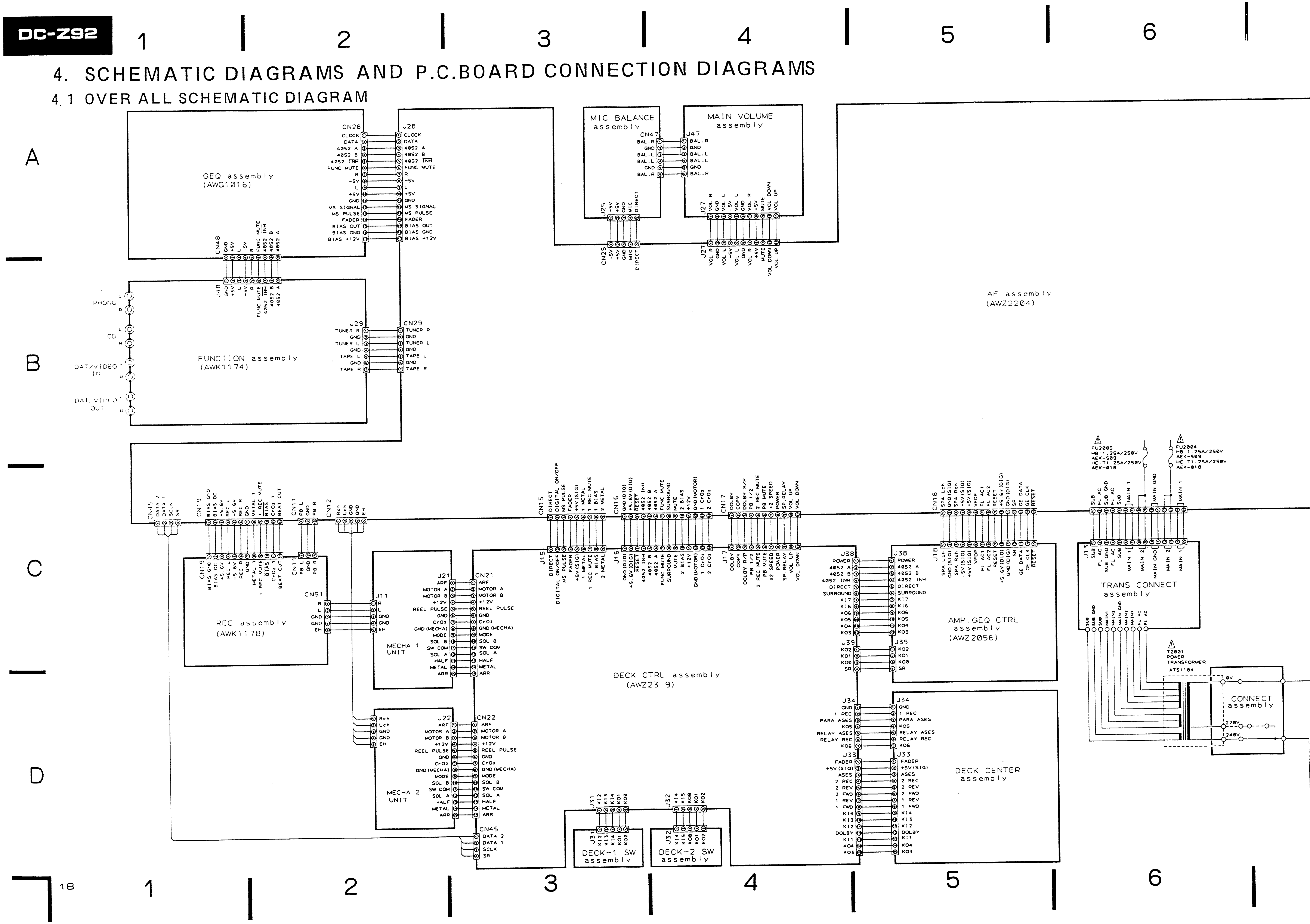
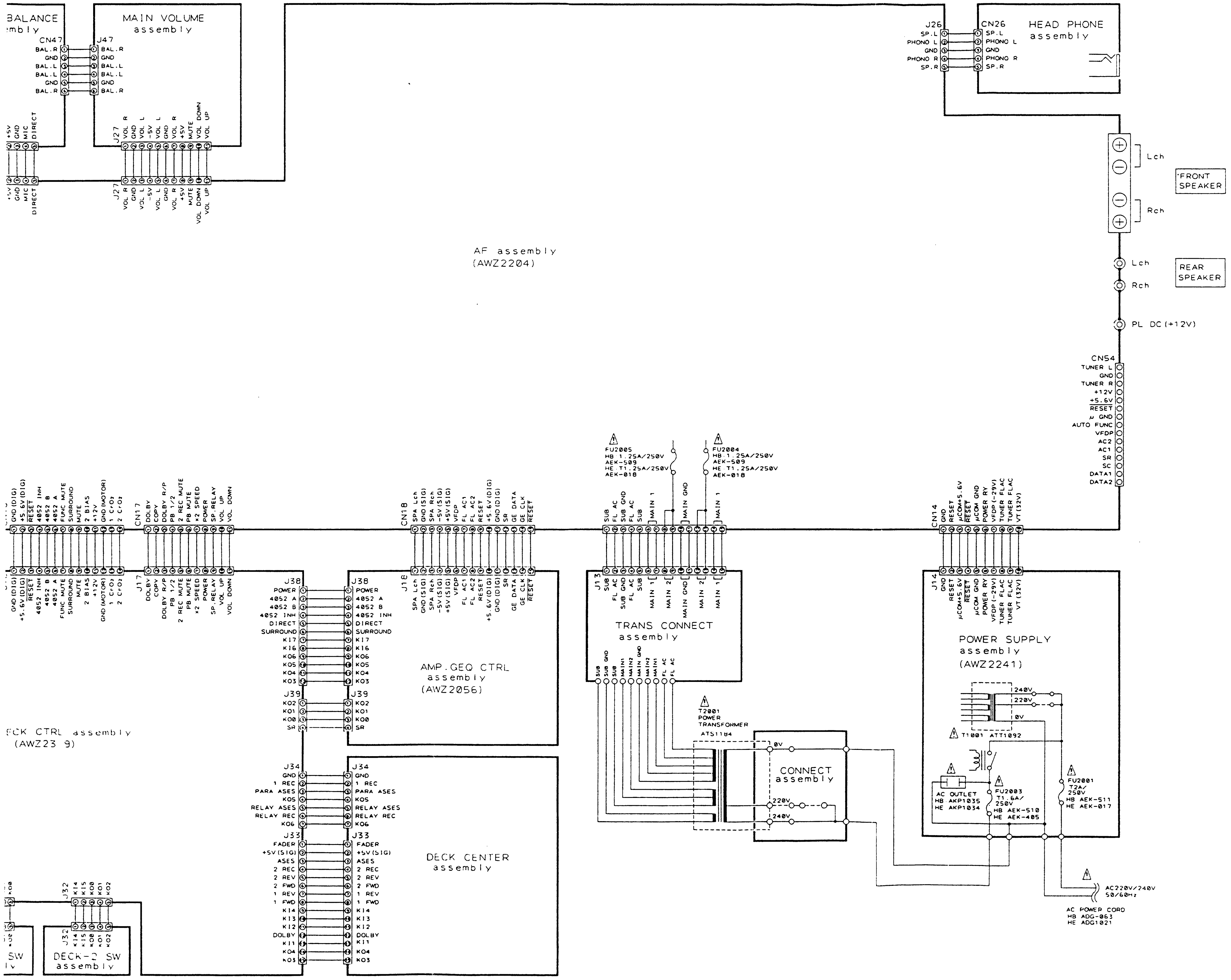
29
50
86
74
37
79
68
20
34
49
11
216
20
67
209
17
30
28
53

4. SCHEMATIC DIAGRAMS AND P.C.BOARD CONNECTION DIAGRAMS

4.1 OVER ALL SCHEMATIC DIAGRAM


1
2
3
4
5
6
A
B
C
D
GEQ assembly
(AWG1016)
CN28
J28
CLOCK
DATA
4052 A
4052 B
4052 INH
FUNC MUTE
R
-5V
L
+5V
GND
MS SIGNAL
MS PULSE
FADER
BIAS OUT
BIAS GND
BIAS +12V
CN48
J48
FUNCTION assembly
(AWK1174)
PHONO
CD
DAT/VIDEO IN
DAT/VIDEO OUT
J29
CN29
TUNER R
TUNER L
TAPE L
TAPE R
MIC BALANCE assembly
CN47
J47
BAL.R
BAL.L
MAIN VOLUME assembly
J25
CN25
J27
CN27
VOL R
VOL L
MUTE
VOL DOWN
VOL UP
AF assembly
(AWZ2204)
CN45
DATA 2
DATA 1
SCLK
SR
CN19
CN11
CN12
CN15
CN16
CN17
CN18
J13
REC assembly
(AWK1178)
CN51
J11
J21
CN21
MECHA 1 UNIT
J22
CN22
MECHA 2 UNIT
ARF
MOTOR A
MOTOR B
+12V
REEL PULSE
CrO2
GND (MECHA)
MODE
SOL B
SW COM
SOL A
HALF
METAL
ARR
DECK CTRL assembly
(AWZ2319)
J15
J16
J17
J31
J32
DECK-1 SW assembly
DECK-2 SW assembly
J38
J39
J34
J33
AMP.GEQ CTRL assembly
(AWZ2056)
DECK CENTER assembly
J18
TRANS CONNECT assembly
FU2005
HB 1.25A/250V
AEK-509
HE T1.25A/250V
AEK-010
FU2004
HB 1.25A/250V
AEK-509
HE T1.25A/250V
AEK-010
T2001
POWER TRANSFORMER
ATS1184
CONNECT assembly
110V
220V
240V

CTION DIAGRAMS


BALANCE assembly
CN47
MAIN VOLUME assembly
J47
J27
AF assembly
(AWZ2204)
J26
CN26
HEAD PHONE assembly
FRONT SPEAKER
Lch
Rch
REAR SPEAKER
PL DC (+12V)
CN54
CN17
CN18
FU2005
FU2004
CN14
J17
J18
J38
J39
AMP.GEQ CTRL assembly
(AWZ2056)
J13
TRANS CONNECT assembly
J14
POWER SUPPLY assembly
(AWZ2241)
T2001 POWER TRANSFORMER ATS1184
CONNECT assembly
T1001 ATT1092
AC OUTLET HB AKP1035 HE AKP1034
FU2003 T1.6A/250V HB AEK-510 HE AEK-405
FU2001 T2A/250V HB AEK-511 HE AEK-017
AC220V/240V 50/60Hz
AC POWER CORD HB ADG-063 HE ADG1021
ECK CTRL assembly
(AWZ23 9)
J34
J33
DECK CENTER assembly
J32
DECK-2 SW assembly
4
5
6
7
8
9
A
B
C
D

1. RESISTORS:
Indicated in Ω, ¼W, ⅛W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M); ±20% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT:
▭ : Signal voltage at (60 W + 60 W 8Ω)output (1kHz)
▭ : DC voltage (V) at no input signal
Value in ( ) is DC voltage at rated power.
⇦ mA : DC current at no input signal

4. OTHERS:
➡ : Signal route.
⊘ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

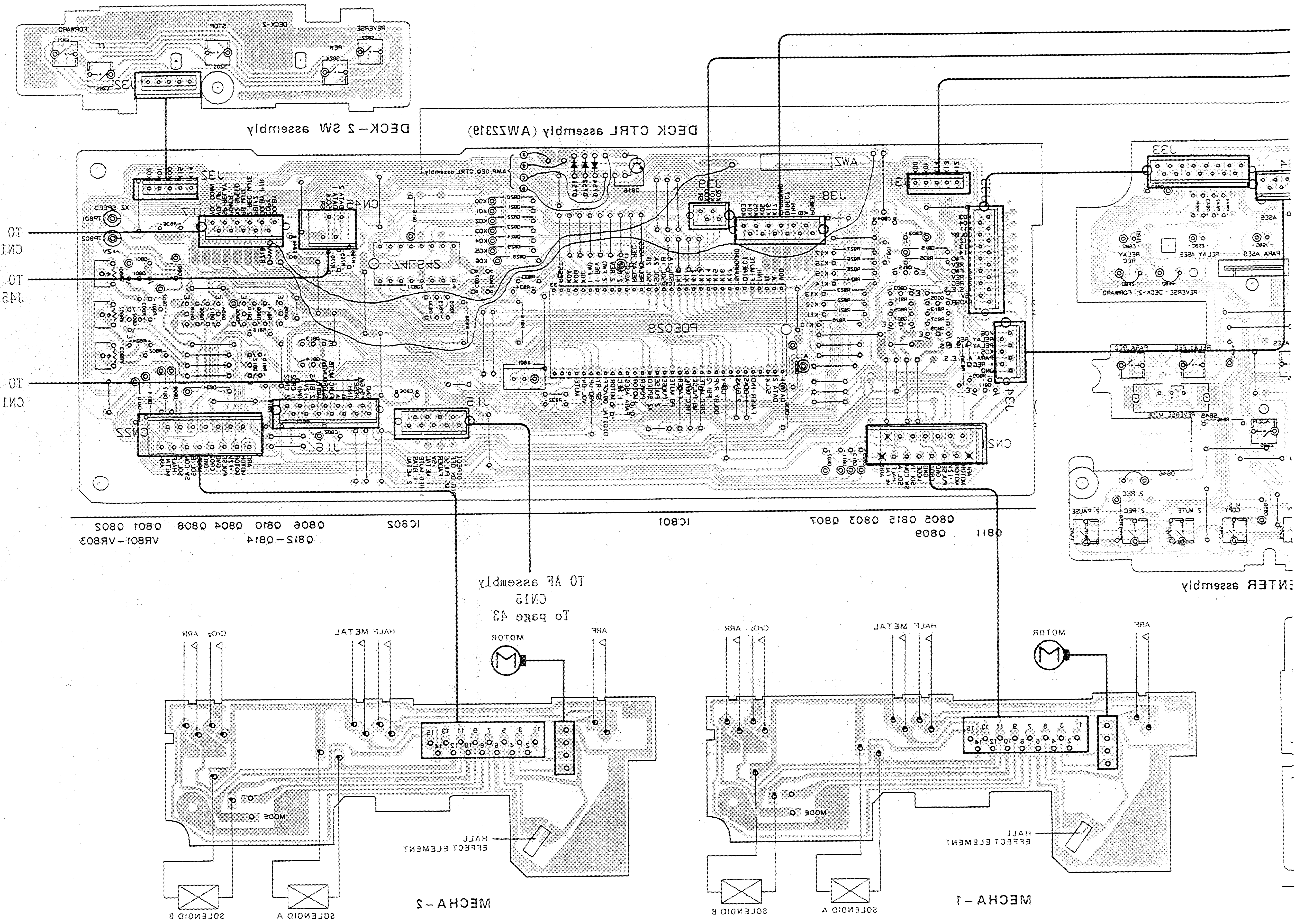
AMP,GEQ CTRL assembly (AWZ2056)
S701,S703,S705,S707,S709,
S711,S715,S717,S771-S793
TACT SW
DECK-1 SW assembly
S811-S815 TACT SW

DECK-2 SW assembly
S821-S825 TACT SW

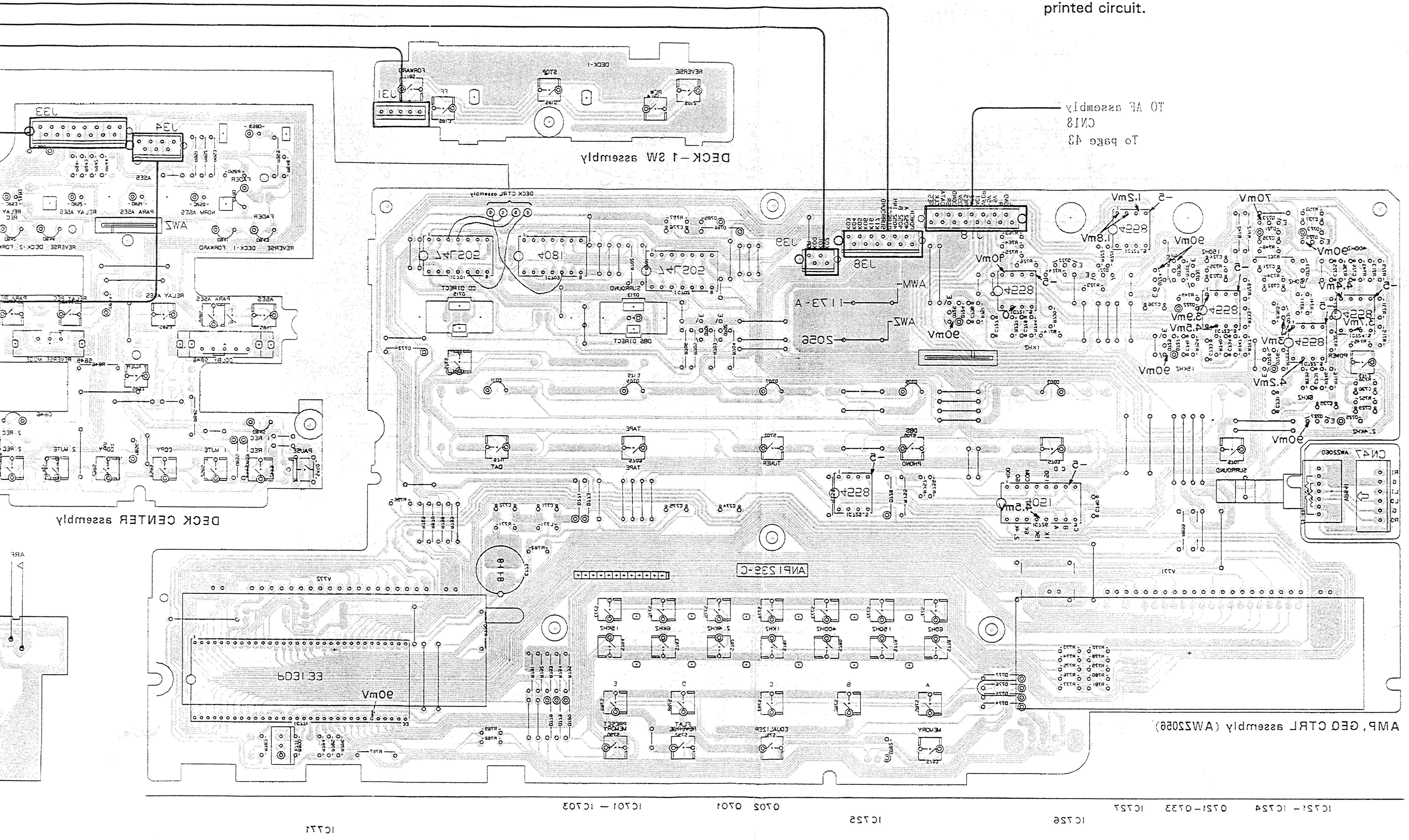
DECK CENTER assembly
S848 DOLBY OFF-ON
S849 REVERSE MODE

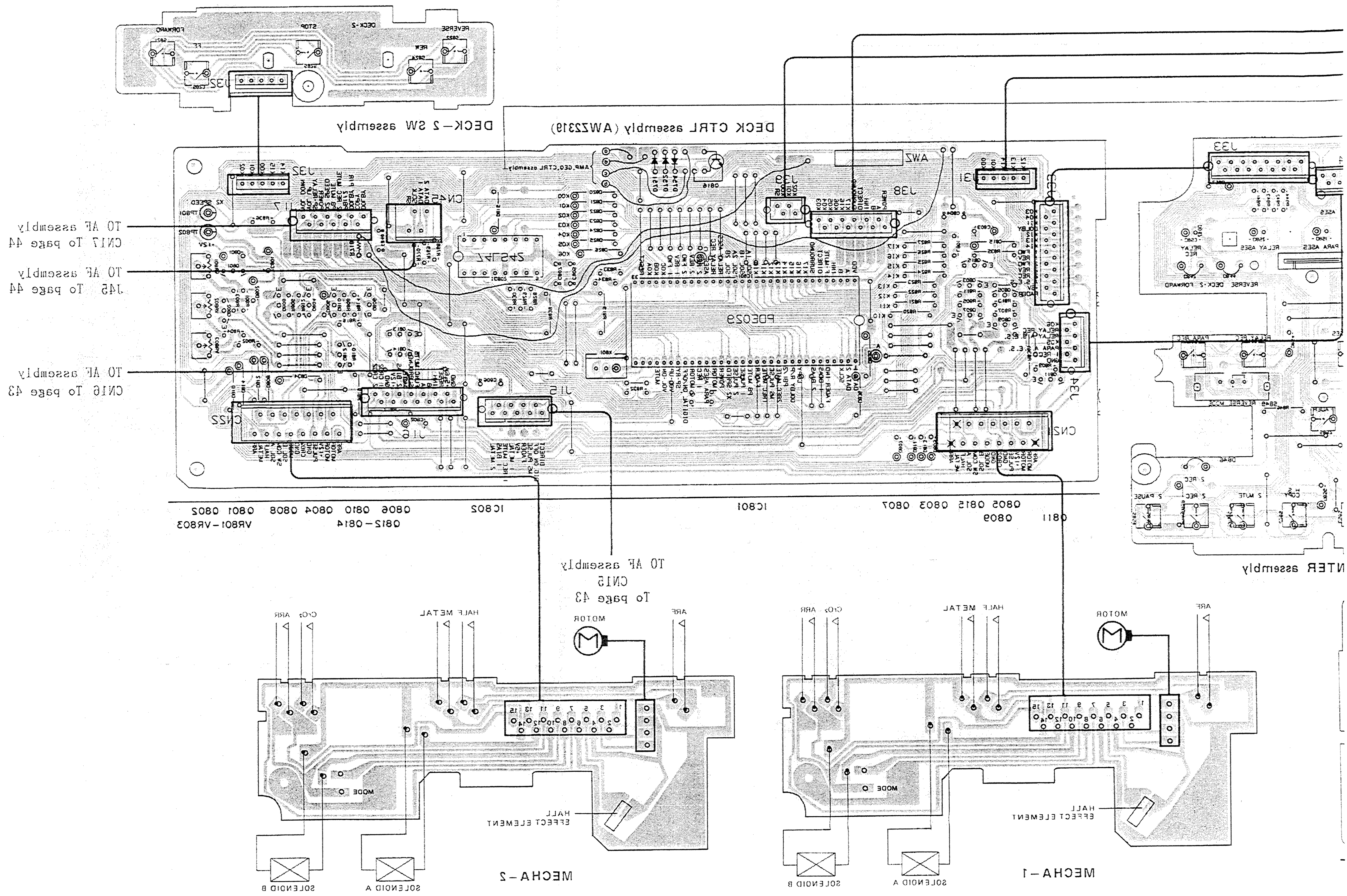
S851-S864 TACT SW

The underline indicates the switch position


12
11
10
9
8
7
A
B
C
D
DECK-2 SW assembly
FORWARD
STOP
REVERSE
DECK-2
FF
REW
S821
S822
S823
S824
J32
DECK CTRL assembly (AWZ2319)
AWZ
TO AF assembly CN17 To page 44
TO AF assembly J45 To page 44
TO AF assembly CN16 To page 43
TO AF assembly CN15 To page 43
IC802
2SJ47Z
PDE029
J38
J31
J33
J15
J16
J34
CN22
CN2
CN14
TP801
TP802
X2 SPEED
Q805 Q815 Q803 Q807
Q809
Q811
IC801
Q806 Q810 Q804 Q808 Q801 Q802
VR801-VR803
Q812-Q814
MOTOR
ARF
HALF METAL
CrO2 ARR
MODE
HALL EFFECT ELEMENT
SOLENOID A
SOLENOID B
MECHA-2
MECHA-1
NTER assembly
RELAY ASES
PARA ASES
REVERSE DECK-2 FORWARD
REVERSE MODE
PAUSE
REC
MUTE
COPY

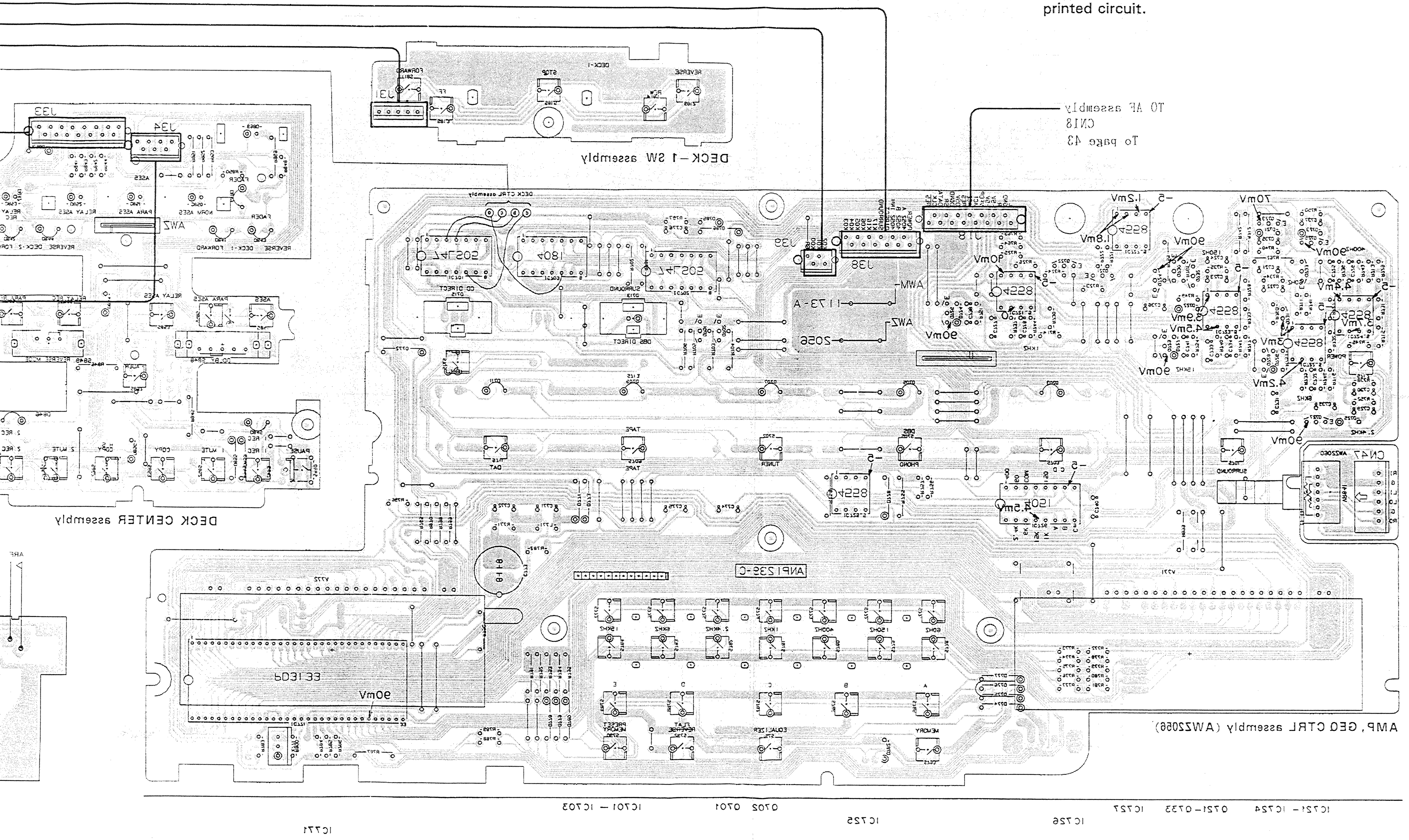
NOTE:
This picture shows the foil side of the printed circuit.


TO AF assembly
CN18
To page 43
DECK-1 SW assembly
DECK CTRL assembly
DECK CENTER assembly
AMP, GEQ CTRL assembly (AWZ2056)
ANP1225-C
J33
J34
J31
J38
J39
CN47
AWZ
AWM
AWZ-2056
A-1173
PD3133
90mV
IC701 — IC703
Q702 Q701
IC725
IC726
IC727
Q721—Q733
IC721 — IC724
IC771

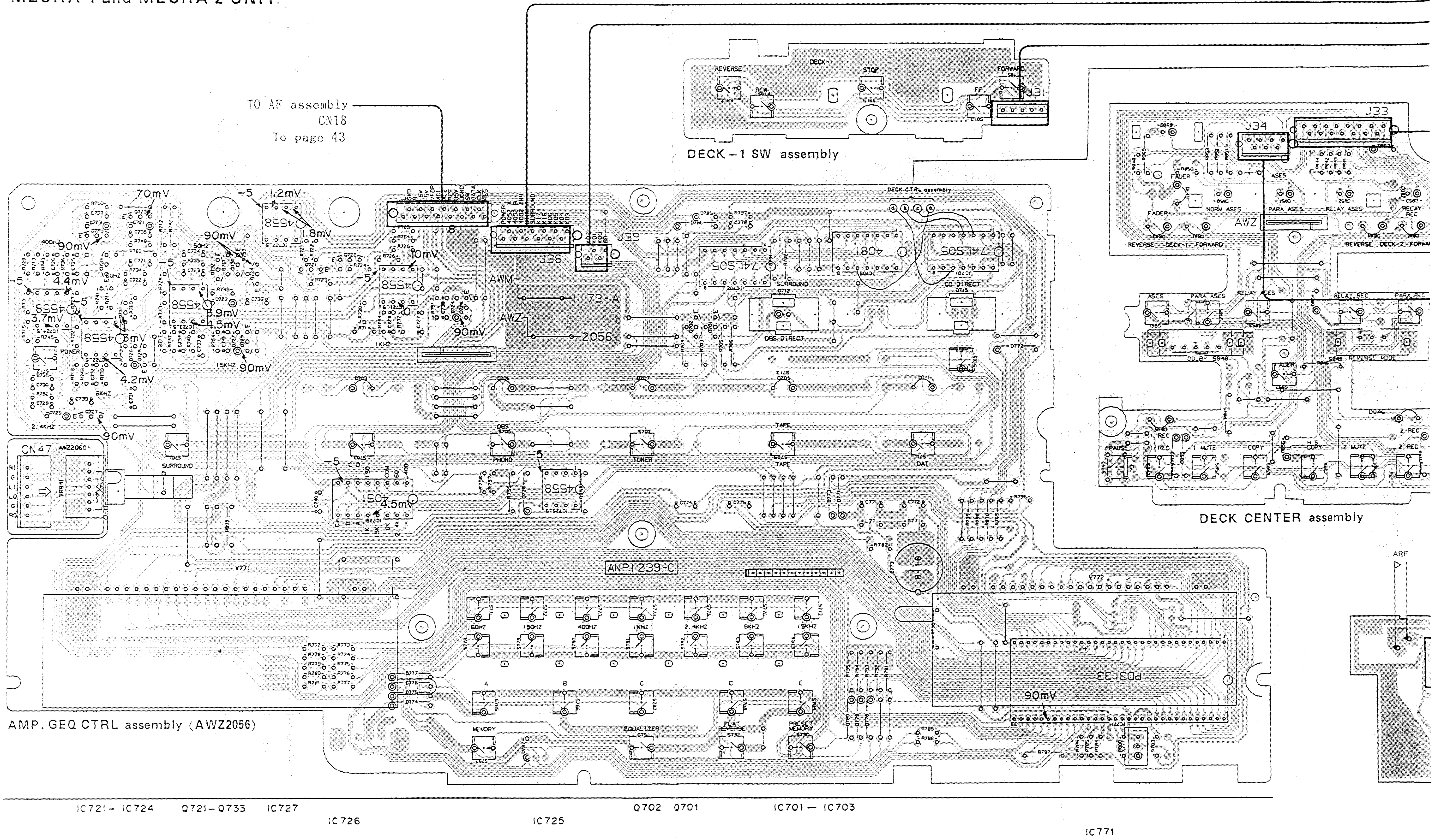


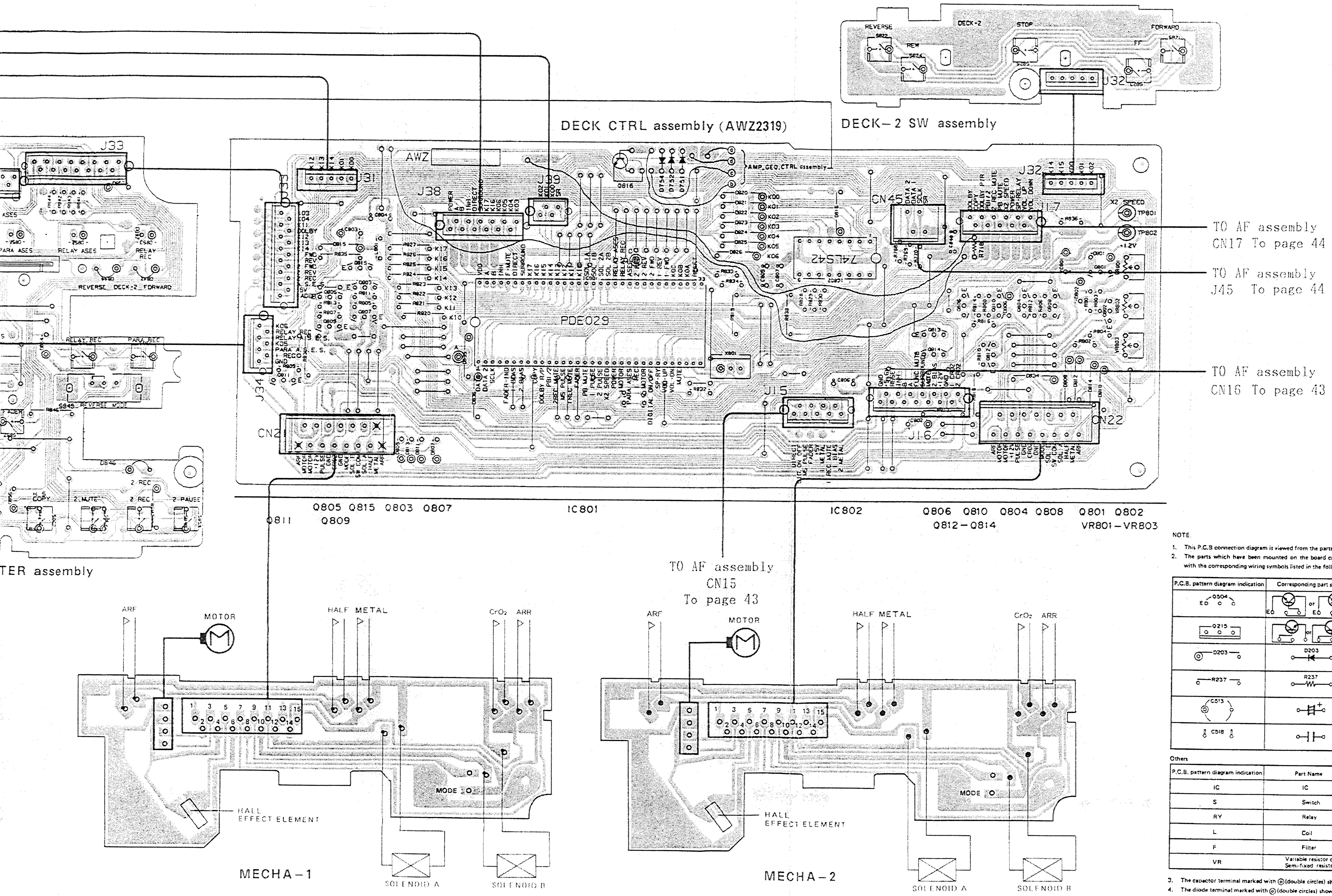
DECK-2 SW assembly
FORWARD
STOP
DECK-2
REVERSE
FF
REW
J32
DECK CTRL assembly (AWZ2319)
AMP,GEQ,CTRL assembly
AWZ
J38
J33
J34
J15
J16
CN4
CN2
CN22
PDE029
X2 SPEED
TO AF assembly CN17 To page 44
TO AF assembly J45 To page 44
TO AF assembly CN16 To page 43
TO AF assembly CN15 To page 43
IC802
IC801
Q802 Q801 Q808 Q804 Q810 Q806
VR801–VR803
Q812–Q814
Q805 Q815 Q803 Q807
Q809
Q811
...NTER assembly
RELAY REC
REVERSE
DECK-2 FORWARD
PARA ASES
RELAY ASES
2 PAUSE
2 REC
2 MUTE
COPY
CrO2 ARR
HALF METAL
MOTOR
ARF
MODE
HALL EFFECT ELEMENT
SOLENOID A
SOLENOID B
MECHA-2
MECHA-1

NOTE:
This picture shows the foil side of the printed circuit.


A
B
C
D
DECK-1 SW assembly
DECK CENTER assembly
DECK CTRL assembly
TO AF assembly
CN18
To page 43
AWM
AWZ
1173-A
2056
ANP1239-C
PD3133
CN47
AMP, GEQ CTRL assembly (AWZ2066)
IC701 — IC703
Q702 Q701
IC725
IC726
IC727
Q721–Q733
IC721– IC724
IC771

4.2 AMP, GEQ CTRL (AWZ2056), DECK−1SW, DECK−2SW, DECK CTRL (AWZ2319) DECK CENTER assembly, MECHA 1 and MECHA 2 UNIT.


A
B
C
D
TO AF assembly
CN18
To page 43
DECK-1
REVERSE
REW
STOP
FF
FORWARD
J31
DECK−1 SW assembly
J33
J34
FADER
NORM ASES
PARA ASES
RELAY ASES
RELAY REC
AWZ
REVERSE DECK-1 FORWARD
REVERSE DECK-2 FORWARD
DECK CTRL assembly
70mV
1.2mV
1.8mV
90mV
4.4mV
5.7mV
3.9mV
4.5mV
4.2mV
10mV
4558
J8
J38
J39
AWM
1173-A
AWZ
2056
74LS05
4081
SURROUND
DBS DIRECT
CD DIRECT
POWER
1KHZ
15KHZ
6KHZ
2.4KHZ
CN47
AWZ2060
DBS
PHONO
TUNER
TAPE
DAT
4.5mV
PARA ASES
RELAY ASES
RELAY REC
REVERSE MODE
PAUSE
REC
MUTE
COPY
DECK CENTER assembly
ANP1239-C
60HZ
150HZ
400HZ
1KHZ
2.4KHZ
6KHZ
15KHZ
A
B
C
D
E
MEMORY
EQUALIZER
FLAT
REVERSE
PRESET MEMORY
PD3133
90mV
ARF
AMP, GEQ CTRL assembly (AWZ2056)
IC721 − IC724
Q721 − Q733
IC727
IC726
IC725
Q702
Q701
IC701 − IC703
IC771


DECK-2 SW assembly
REVERSE
S822
REW
S824
DECK-2
STOP
S823
FORWARD
S821
FF
J32
DECK CTRL assembly (AWZ2319)
AWZ
AMP GEQ CTRL assembly
J33
J31
J38
J39
J32
CN45
J17
J34
CN2
J15
J16
CN22
PDE029
74LS42
TP801
TP802
TO AF assembly
CN17 To page 44
TO AF assembly
J45 To page 44
TO AF assembly
CN16 To page 43
Q805 Q815 Q803 Q807
Q811
Q809
IC801
IC802
Q806 Q810 Q804 Q808
Q812 – Q814
Q801 Q802
VR801 – VR803
TER assembly
RELAY ASES
PARA ASES
REVERSE DECK-2 FORWARD
RELAY REC
PARA REC
REVERSE MODE
2 REC
2 MUTE
2 PAUSE
COPY
TO AF assembly
CN15
To page 43
ARF
MOTOR
HALF
METAL
CrO2
ARR
HALL
EFFECT ELEMENT
MODE
MECHA-1
SOLENOID A
SOLENOID B
ARF
MOTOR
HALF
METAL
CrO2
ARR
HALL
EFFECT ELEMENT
MODE
MECHA-2
SOLENOID A
SOLENOID B

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
E Q504	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

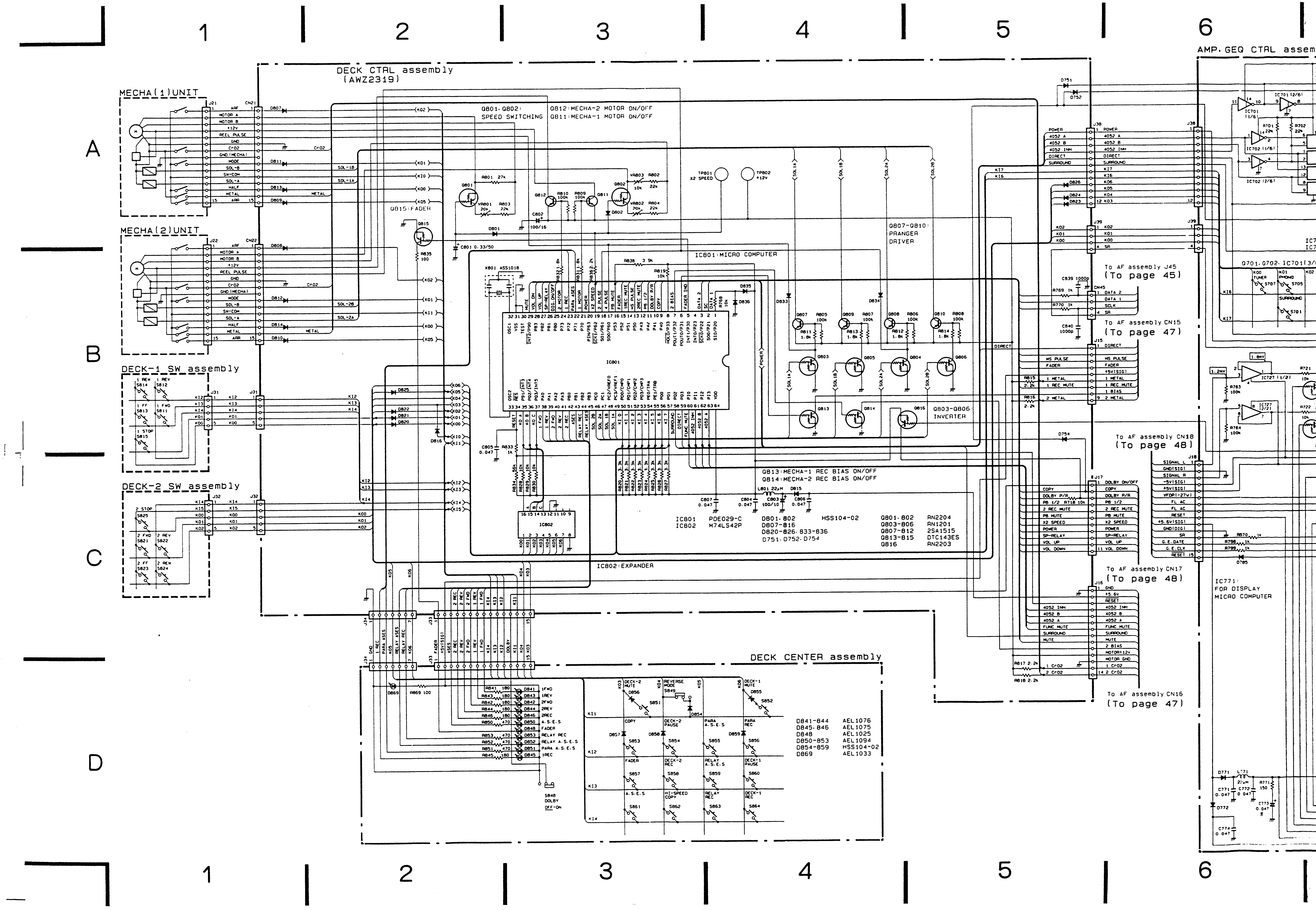
3. The capacitor terminal marked with ◎ (double circles) shows negatine termiani.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

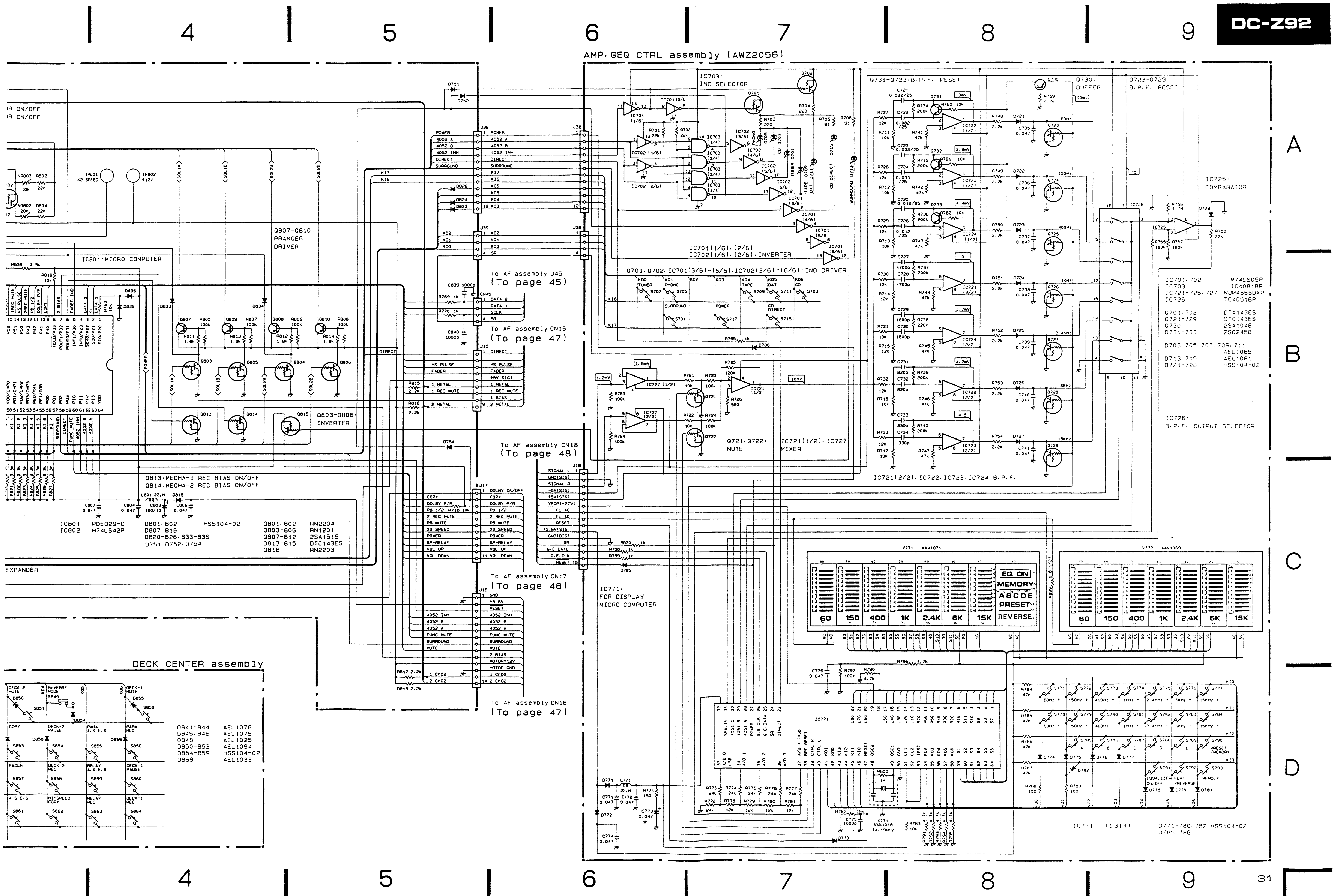
A

B

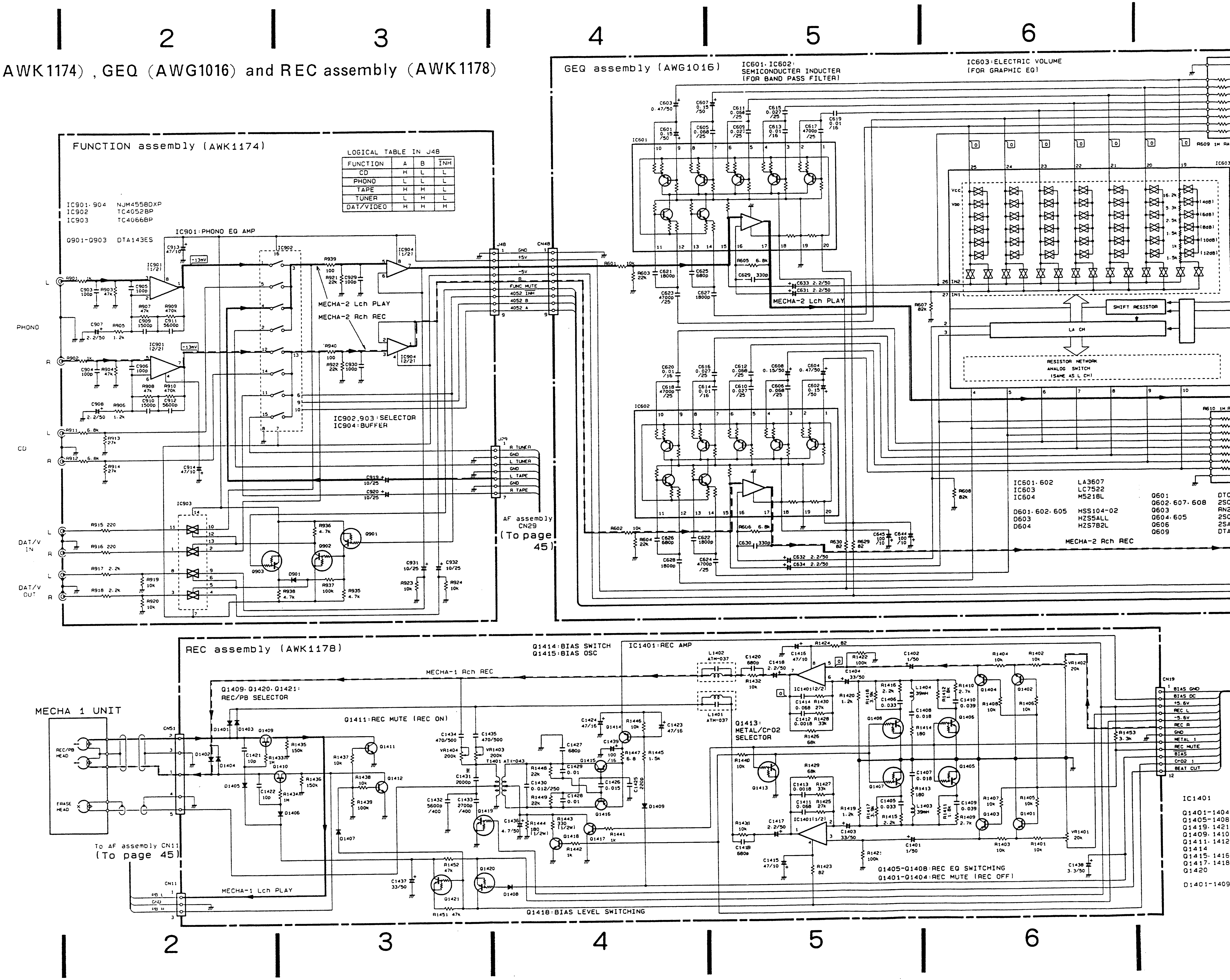
C

D


DECK CTRL assembly
(AWZ2319)
MECHA(1)UNIT
MECHA(2)UNIT
DECK-1 SW assembly
DECK-2 SW assembly
DECK CENTER assembly
AMP, GEQ CTRL assem
Q801, Q802: SPEED SWITCHING
Q812: MECHA-2 MOTOR ON/OFF
Q811: MECHA-1 MOTOR ON/OFF
Q815: FADER
IC801: MICRO COMPUTER
IC802: EXPANDER
Q807-Q810: PRANGER DRIVER
Q803-Q806: INVERTER
Q813: MECHA-1 REC BIAS ON/OFF
Q814: MECHA-2 REC BIAS ON/OFF
TP801 X2 SPEED
TP802 +12V
To AF assembly J45 (To page 45)
To AF assembly CN15 (To page 47)
To AF assembly CN18 (To page 48)
To AF assembly CN17 (To page 48)
To AF assembly CN16 (To page 47)
IC771: FOR DISPLAY MICRO COMPUTER
IC801 PDE029-C
IC802 M74LS42P
D801, 802 HSS104-02
D807-816
D820-826, 833-836
D751, D752, D754
Q801, 802 RN2204
Q803-806 RN1201
Q807-812 2SA1515
Q813-815 DTC143ES
Q816 RN2203
D841-844 AEL1076
D845, 846 AEL1075
D848 AEL1025
D850-853 AEL1094
D854-859 HSS104-02
D869 AEL1033
S848 DOLBY OFF-ON
1 2 3 4 5 6
A B C D

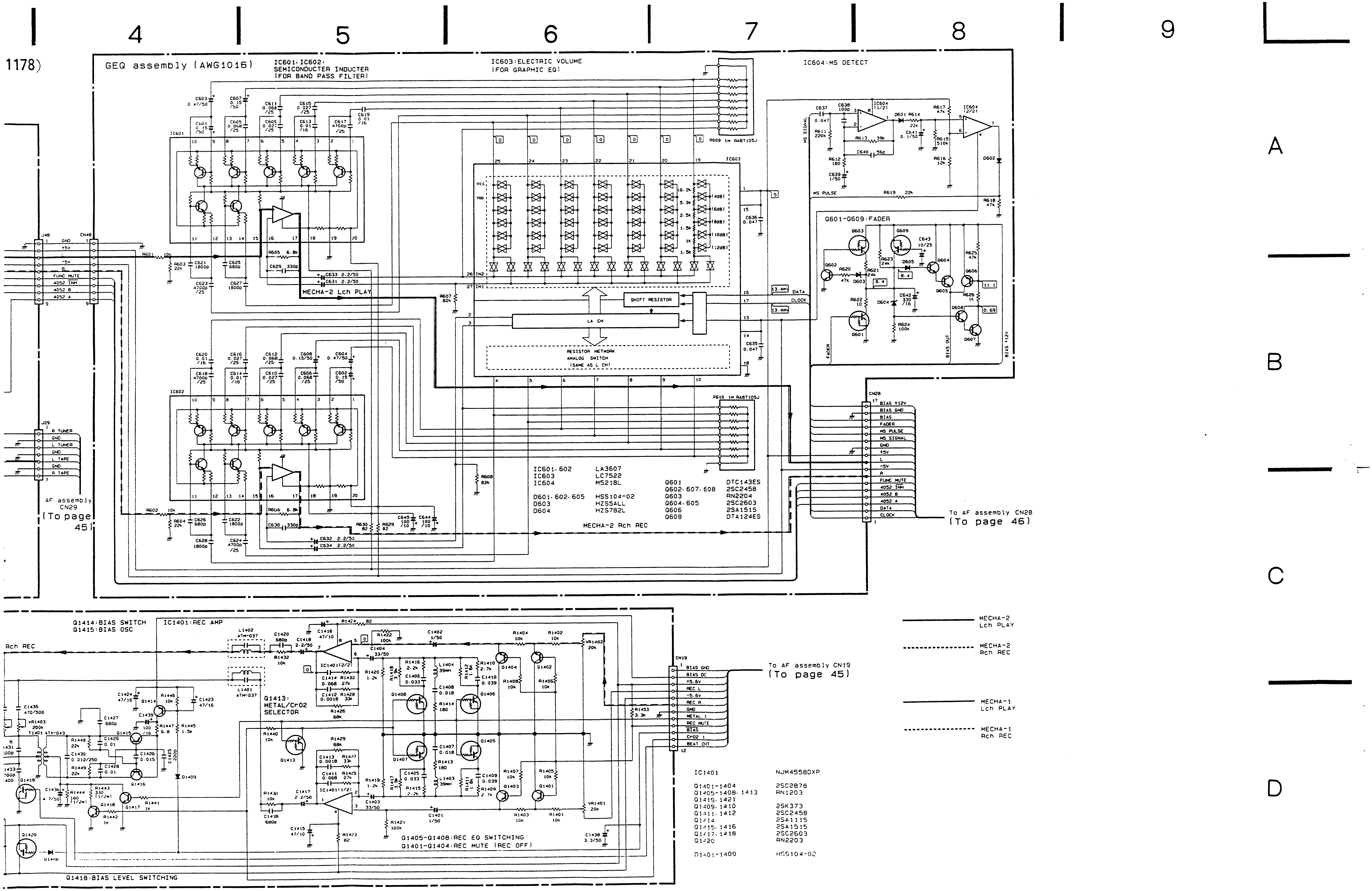

4
5
6
7
8
9
A
B
C
D
AMP. GEQ CTRL assembly (AWZ2056)
DECK CENTER assembly
IC801: MICRO COMPUTER
Q807–Q810: PRANGER DRIVER
Q803–Q806: INVERTER
Q813: MECHA-1 REC BIAS ON/OFF
Q814: MECHA-2 REC BIAS ON/OFF
TP801 X2 SPEED
TP802 +12V
EXPANDER
IC801 PDE029-C
IC802 M74LS42P
D801, 802 HSS104-02
D807–816
D820–826, 833–836
D751, D752, D754
Q801, 802 RN2204
Q803–806 RN1201
Q807–812 2SA1515
Q813–815 DTC143ES
Q816 RN2203
To AF assembly J45 (To page 45)
To AF assembly CN15 (To page 47)
To AF assembly CN18 (To page 48)
To AF assembly CN17 (To page 48)
To AF assembly CN16 (To page 47)
IC703: IND SELECTOR
IC701(1/6), (2/6) IC702(1/6), (2/6): INVERTER
Q701, Q702, IC701(3/6)–(6/6), IC702(3/6)–(6/6): IND DRIVER
Q721, Q722: MUTE
IC721(1/2), IC727: MIXER
Q731–Q733: B.P.F. RESET
Q730: BUFFER
Q723–Q729: B.P.F. RESET
IC721(2/2), IC722, IC723, IC724: B.P.F.
IC725 COMPARATOR
IC726: B.P.F. OUTPUT SELECTOR
IC771: FOR DISPLAY MICRO COMPUTER
IC701, 702 M74LS05P
IC703 TC4081BP
IC721–725, 727 NJM4558DXP
IC726 TC4051BP
Q701, 702 DTA143ES
Q721–729 DTC143ES
Q730 2SA1048
Q731–733 2SC2458
D703, 705, 707, 709, 711 AEL1065
D713, 715 AEL1081
D721–728 HSS104-02
V771 AAV1071
V772 AAV1069
EQ ON
MEMORY
A B C D E
PRESET
REVERSE
60
150
400
1K
2.4K
6K
15K
IC771 PD3133
D771–780, 782 HSS104-02
D785, 786
D841–844 AEL1076
D845, 846 AEL1075
D848 AEL1025
D850–853 AEL1094
D854–859 HSS104-02
D869 AEL1033
DECK-2 MUTE
REVERSE MODE
DECK-1 MUTE
COPY
DECK-2 PAUSE
PARA A.S.L.S
PARA REC
FADER
DECK-2 REC
RELAY A.S.L.S
DECK-1 PAUSE
A.S.L.S
HI-SPEED COPY
RELAY REC
DECK-1 REC
TUNER
PHONO
TAPE
DAT
CD
SURROUND
POWER
CD DIRECT
EQUALIZER ON/OFF
FLAT /REVERSE
MEMORY
PRESET /MEMORY
J38
J39
J15
J16
J17
J18
CN45

4.3 FUNCTION (AWK1174), GEQ (AWG1016) and REC assembly (AWK1178)


1
2
3
4
5
6
A
B
C
D
FUNCTION assembly (AWK1174)
IC901, 904 NJM4558DXP
IC902 TC4052BP
IC903 TC4066BP
Q901–Q903 DTA143ES
IC901: PHONO EQ AMP
IC902
IC904 (1/2)
IC904 (2/2)
IC901 (1/2)
IC901 (2/2)
MECHA-2 Lch PLAY
MECHA-2 Rch REC
IC902, 903: SELECTOR
IC904: BUFFER
IC903
PHONO
CD
DAT/V IN
DAT/V OUT
L
R
Q901
Q902
Q903
D901
J48
CN48
GND
+5V
−5V
FUNC MUTE
4052 INH
4052 B
4052 A
J29
R TUNER
L TUNER
L TAPE
R TAPE
AF assembly CN29
(To page 45)
GEQ assembly (AWG1016)
IC601, IC602: SEMICONDUCTER INDUCTER (FOR BAND PASS FILTER)
IC603: ELECTRIC VOLUME (FOR GRAPHIC EQ)
IC601
IC602
MECHA-2 Lch PLAY
MECHA-2 Rch REC
SHIFT RESISTOR
LA CH
RESISTOR NETWORK ANALOG SWITCH (SAME AS L CH)
IC601, 602 LA3607
IC603 LC7522
IC604 M5218L
D601, 602, 605 HSS104-02
D603 HZS5ALL
D604 HZS7B2L
Q601
Q602, 607, 608
Q603
Q604, 605
Q606
Q609
REC assembly (AWK1178)
Q1414: BIAS SWITCH
Q1415: BIAS OSC
IC1401: REC AMP
MECHA-1 Rch REC
Q1409, Q1420, Q1421: REC/PB SELECTOR
Q1411: REC MUTE (REC ON)
Q1413: METAL/CrO2 SELECTOR
MECHA 1 UNIT
REC/PB HEAD
ERASE HEAD
CN51
CN11
To AF assembly CN11
(To page 45)
MECHA-1 Lch PLAY
Q1418: BIAS LEVEL SWITCHING
Q1405–Q1408: REC EQ SWITCHING
Q1401–Q1404: REC MUTE (REC OFF)
CN19
BIAS GND
BIAS DC
+5.6V
REC L
−5.6V
REC R
GND
METAL 1
REC MUTE
BIAS
CrO2 1
BEAT CUT
IC1401
Q1401–1404
Q1405–1408
Q1419, 1421
Q1409, 1410
Q1411, 1412
Q1414
Q1415, 1416
Q1417, 1418
Q1420
D1401–1409

LOGICAL TABLE IN J48

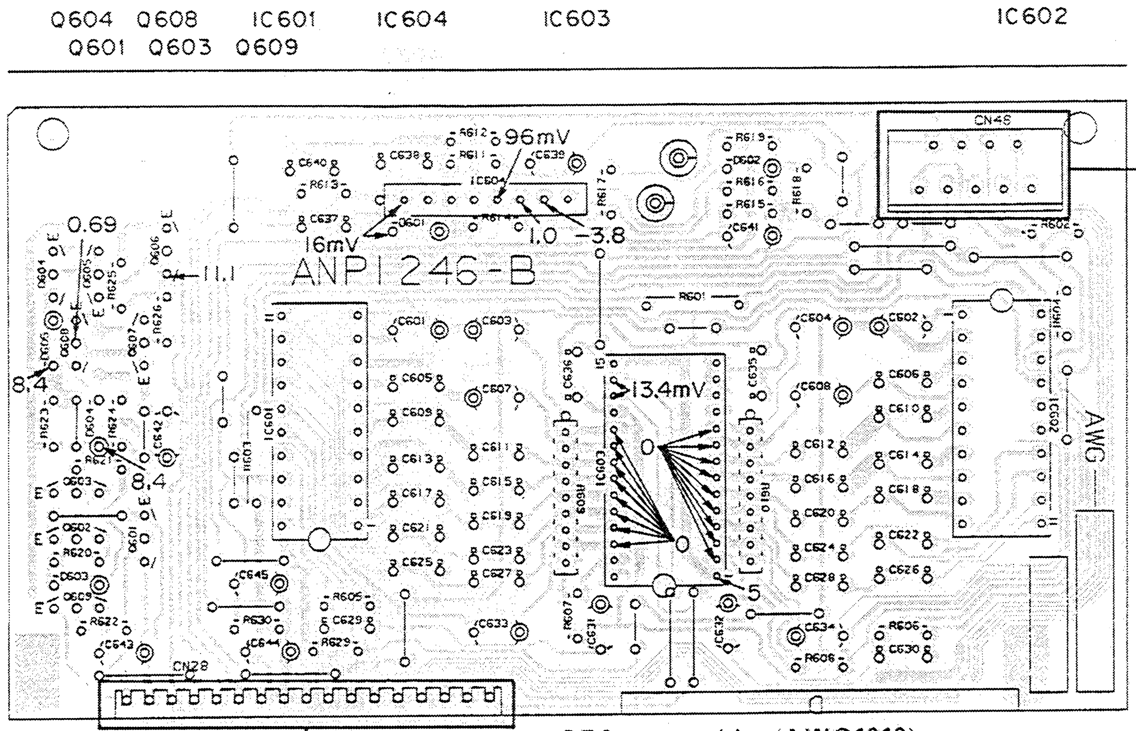
FUNCTION	A	B	INH
CD	H	L	L
PHONO	L	L	L
TAPE	H	H	L
TUNER	L	H	L
DAT/VIDEO	H	H	H


1178)
GEQ assembly (AWG1016)
IC601·IC602:
SEMICONDUCTER INDUCTER
(FOR BAND PASS FILTER)
IC603:ELECTRIC VOLUME
(FOR GRAPHIC EQ)
IC604:MS DETECT
Q601-Q609:FADER
SHIFT RESISTOR
LA CH
RESISTOR NETWORK
ANALOG SWITCH
(SAME AS L CH)
MECHA-2 Lch PLAY
MECHA-2 Rch REC
MS SIGNAL
MS PULSE
DATA
CLOCK
FADER
BIAS OUT
BIAS +12V
J48
CN48
GND
+5V
L
-5V
R
FUNC MUTE
4052 INH
4052 B
4052 A
J29
R TUNER
GND
L TUNER
GND
L TAPE
GND
R TAPE
AF assembly CN29
(To page 45)
CN28
BIAS +12V
BIAS GND
BIAS
FADER
MS PULSE
MS SIGNAL
GND
+5V
L
-5V
R
FUNC MUTE
4052 INH
4052 B
4052 A
DATA
CLOCK
To AF assembly CN28
(To page 46)
R609 1M RA8T105J
R610 1M RA8T105J
Q1414:BIAS SWITCH
Q1415:BIAS OSC
IC1401:REC AMP
Rch REC
Q1413:
METAL/CrO2
SELECTOR
CN19
BIAS GND
BIAS DC
+5.6V
REC L
-5.6V
REC R
GND
METAL 1
REC MUTE
BIAS
CrO2 1
BEAT CUT
To AF assembly CN19
(To page 45)
Q1405-Q1408:REC EQ SWITCHING
Q1401-Q1404:REC MUTE (REC OFF)
Q1418:BIAS LEVEL SWITCHING
MECHA-2
Lch PLAY
MECHA-2
Rch REC
MECHA-1
Lch PLAY
MECHA-1
Rch REC
4
5
6
7
8
9
A
B
C
D

IC601·602	LA3607
IC603	LC7522
IC604	M5218L
D601·602·605	HSS104-02
D603	HZS5ALL
D604	HZS7B2L

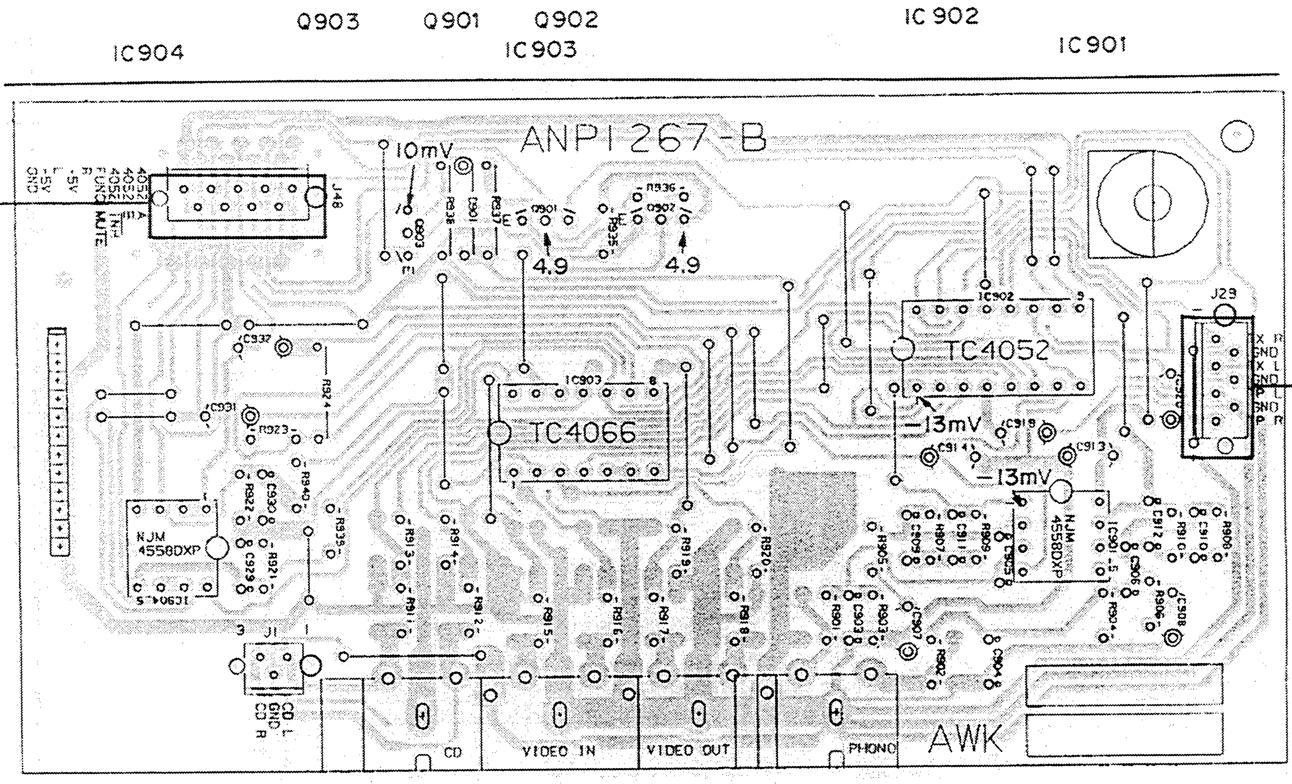
Q601	DTC143ES
Q602·607·608	2SC2458
Q603	RN2204
Q604·605	2SC2603
Q606	2SA1515
Q609	DTA124ES

IC1401	NJM4558DXP
Q1401-1404	2SC2878
Q1405-1408·1413	RN1203
Q1419·1421	
Q1409·1410	2SK373
Q1411·1412	2SC2458
Q1414	2SA1115
Q1415·1416	2SA1515
Q1417·1418	2SC2603
Q1420	RN2203
D1401-1409	HSS104-02


Q604 Q608 IC601 IC604 IC603 IC602
Q601 Q603 Q609
ANP1246-B
CN48
0.69
96mV
16mV
1.0
3.8
11.1
8.4
0.4
13.4mV
AWG
CN28

GEQ assembly (AWG1016)

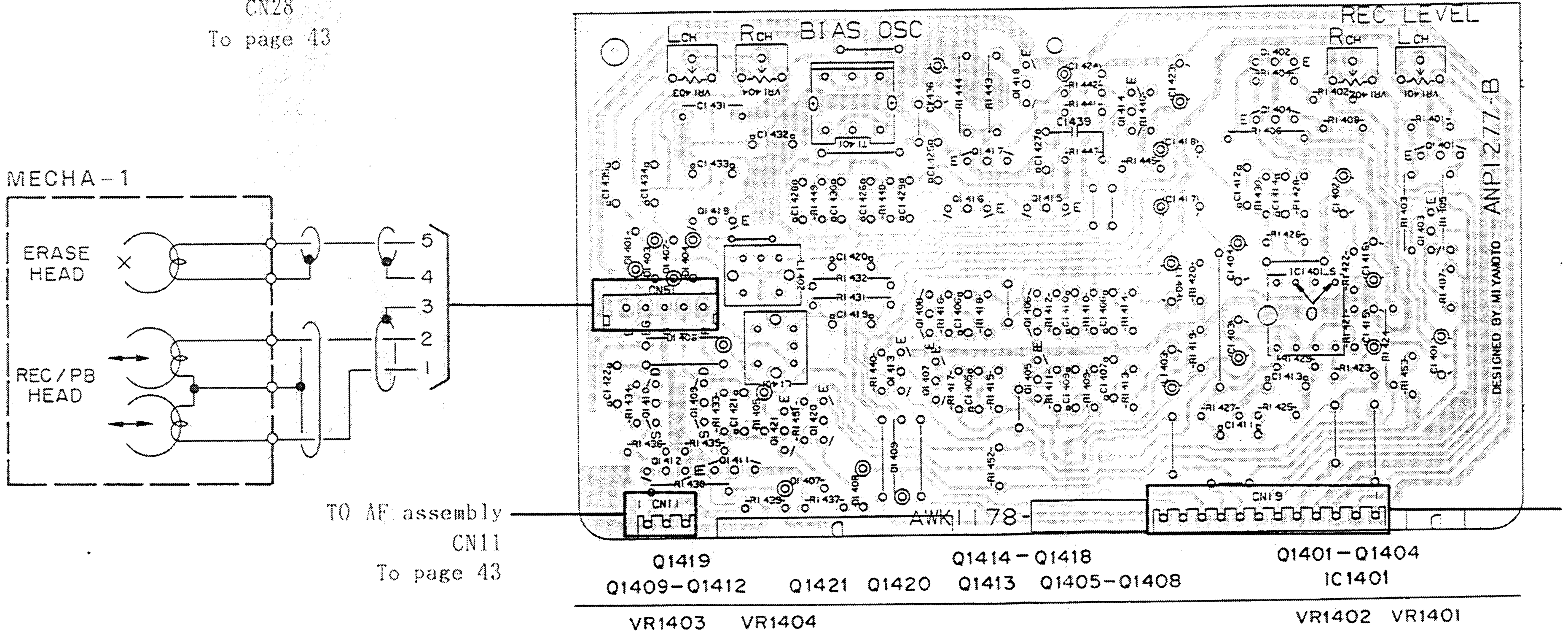
TO AF assembly
CN28
To page 43


Q903 Q901 Q902
IC904 IC903 IC902 IC901
ANP1267-B
10mV
4.9
4.9
J48
TC4052
TC4066
-13mV
-13mV
NJM 4558DXP
J29
J1
CD
VIDEO IN
VIDEO OUT
PHONO
AWK

FUNCTION assembly (AWK1174)

TO AF assembly
CN29
To page 44

REC assembly (AWK1178)


LCH RCH BIAS OSC
REC LEVEL
RCH LCH
ANP1277-B
DESIGNED BY MIYAMOTO
MECHA-1
ERASE HEAD
REC/PB HEAD
5
4
3
2
1
CN51
CN11
CN19
AWK1178
Q1419
Q1409–Q1412
Q1421 Q1420
Q1414–Q1418
Q1413 Q1405–Q1408
Q1401–Q1404
IC1401
VR1403 VR1404
VR1402 VR1401

TO AF assembly
CN11
To page 43

TO AF assembly
CN19
To page 43

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

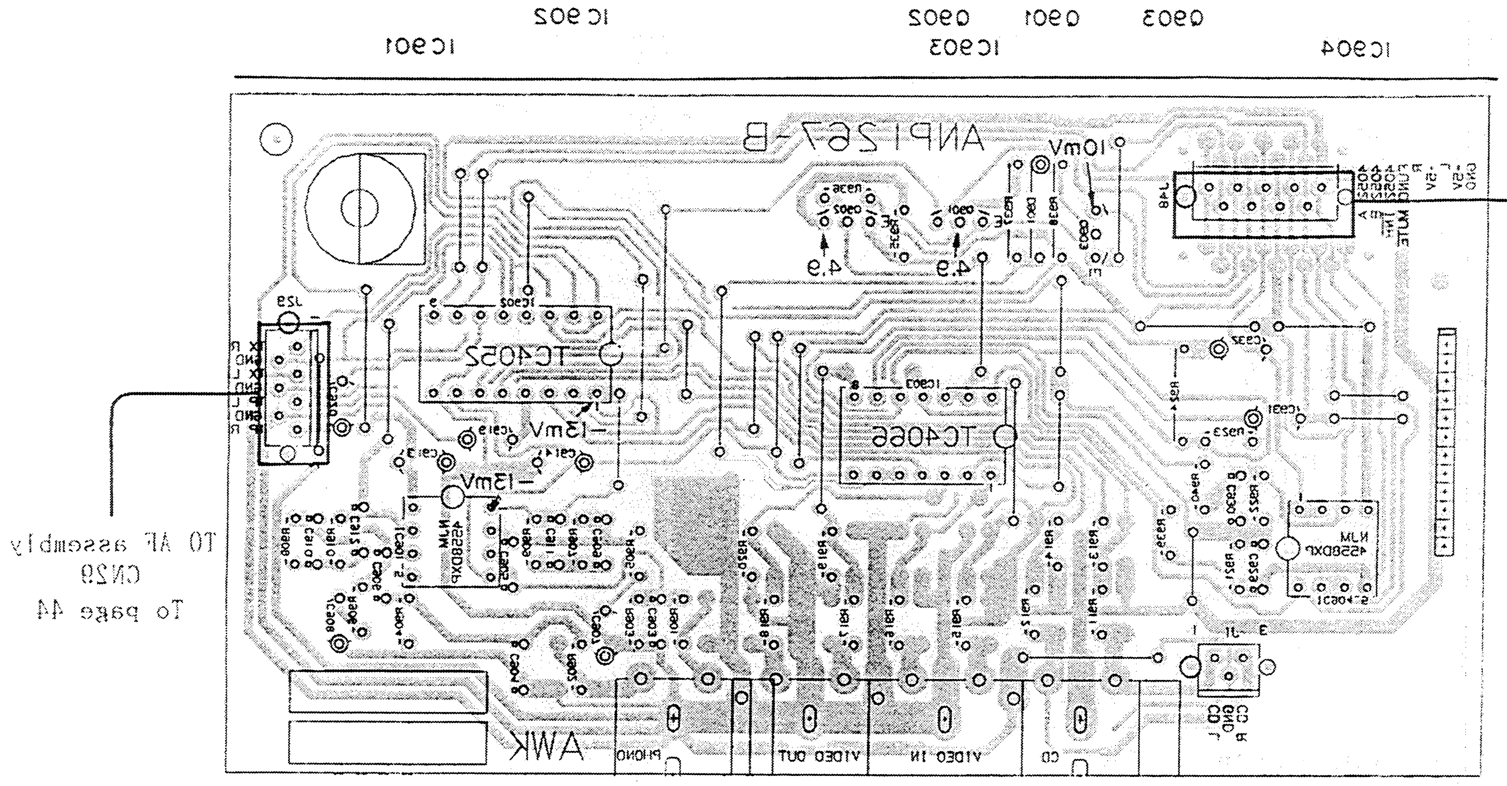
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
E Q504	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

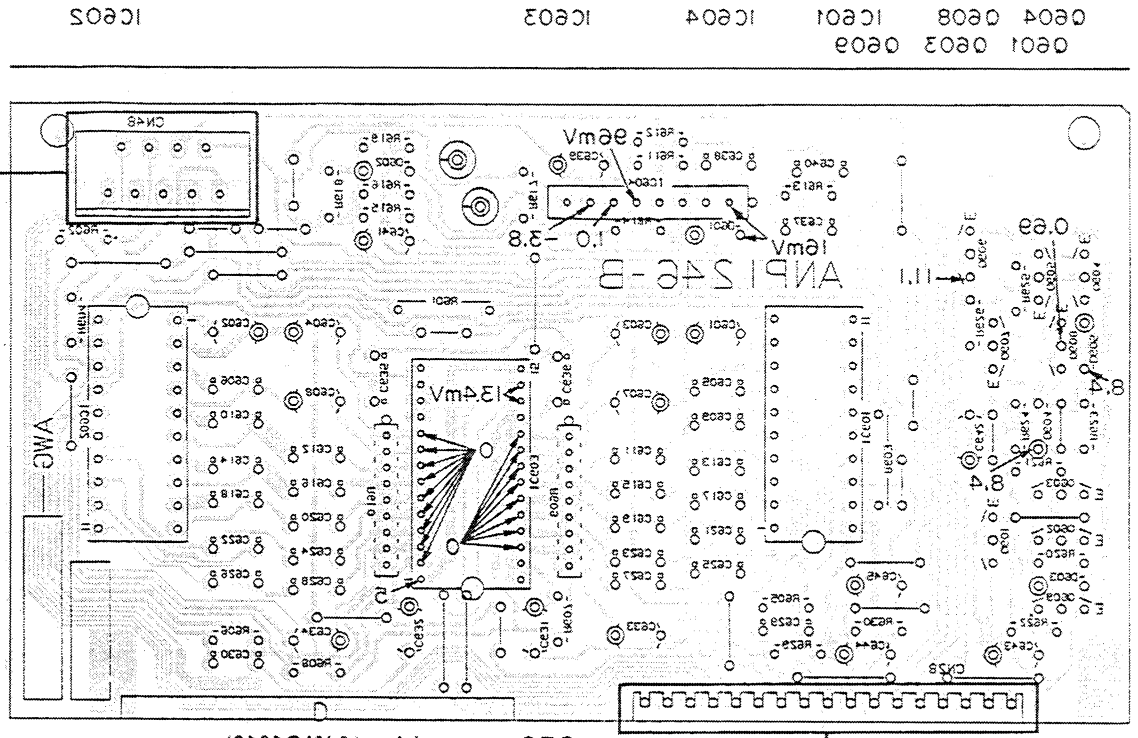
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎ (double circles) shows negatine termianl.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

NOTE:
This picture shows the foil side of the printed circuit.


IC901
IC902
IC903
Q902
Q901
Q903
IC904
ANP1267-B
TC4052
TC4066
NJM 4558DXP
10mV
4.9
-13mV
AWK
PHONO
VIDEO OUT
VIDEO IN
CD
TO AF assembly
CN29
To page 44

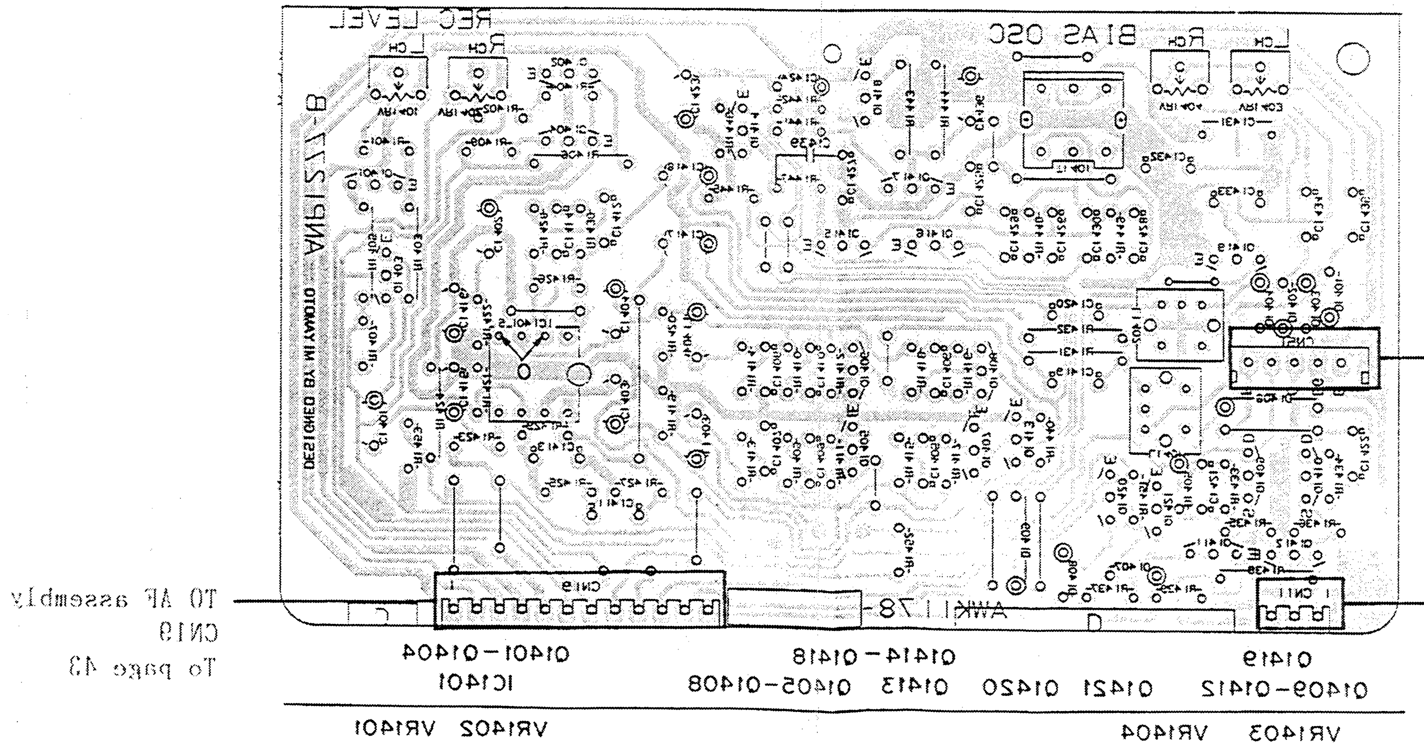
FUNCTION assembly (AWK1174)

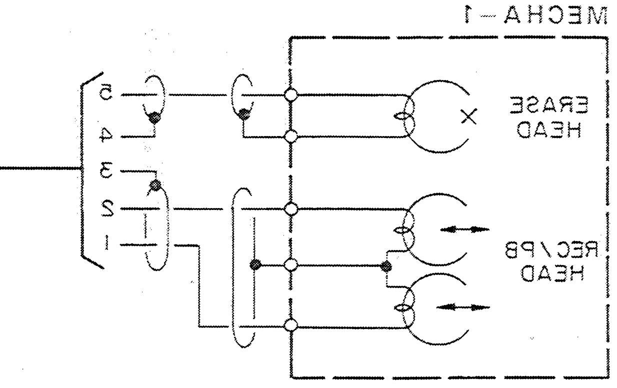

IC602
IC603
IC604
IC601
Q608
Q604
Q601
Q603
Q609
ANP1246-B
AWG
96mV
16mV
13.4mV
CN28

GEQ assembly (AWG1016)

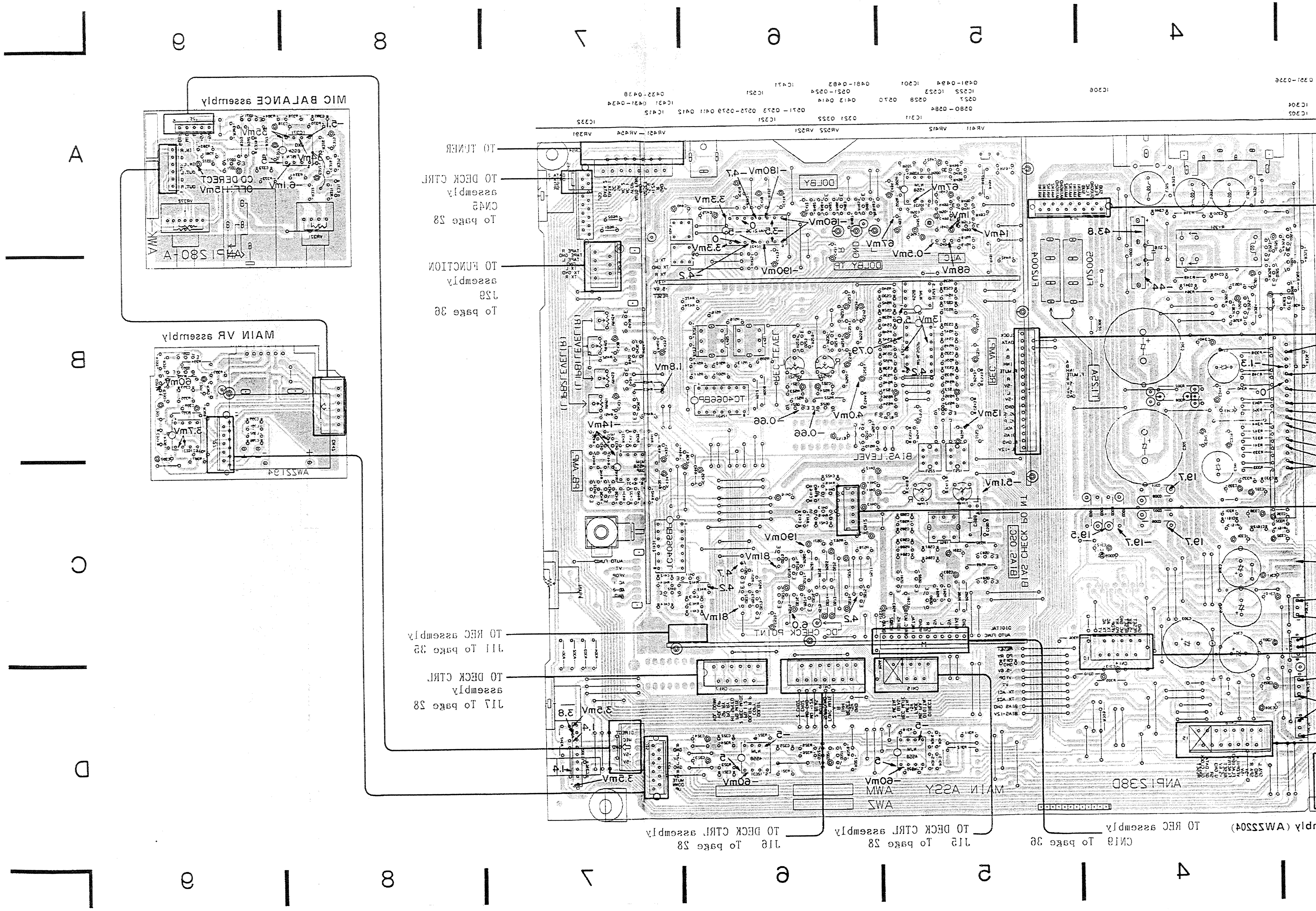
TO AF assembly
CN28
To page 43

REC assembly (AWK1178)

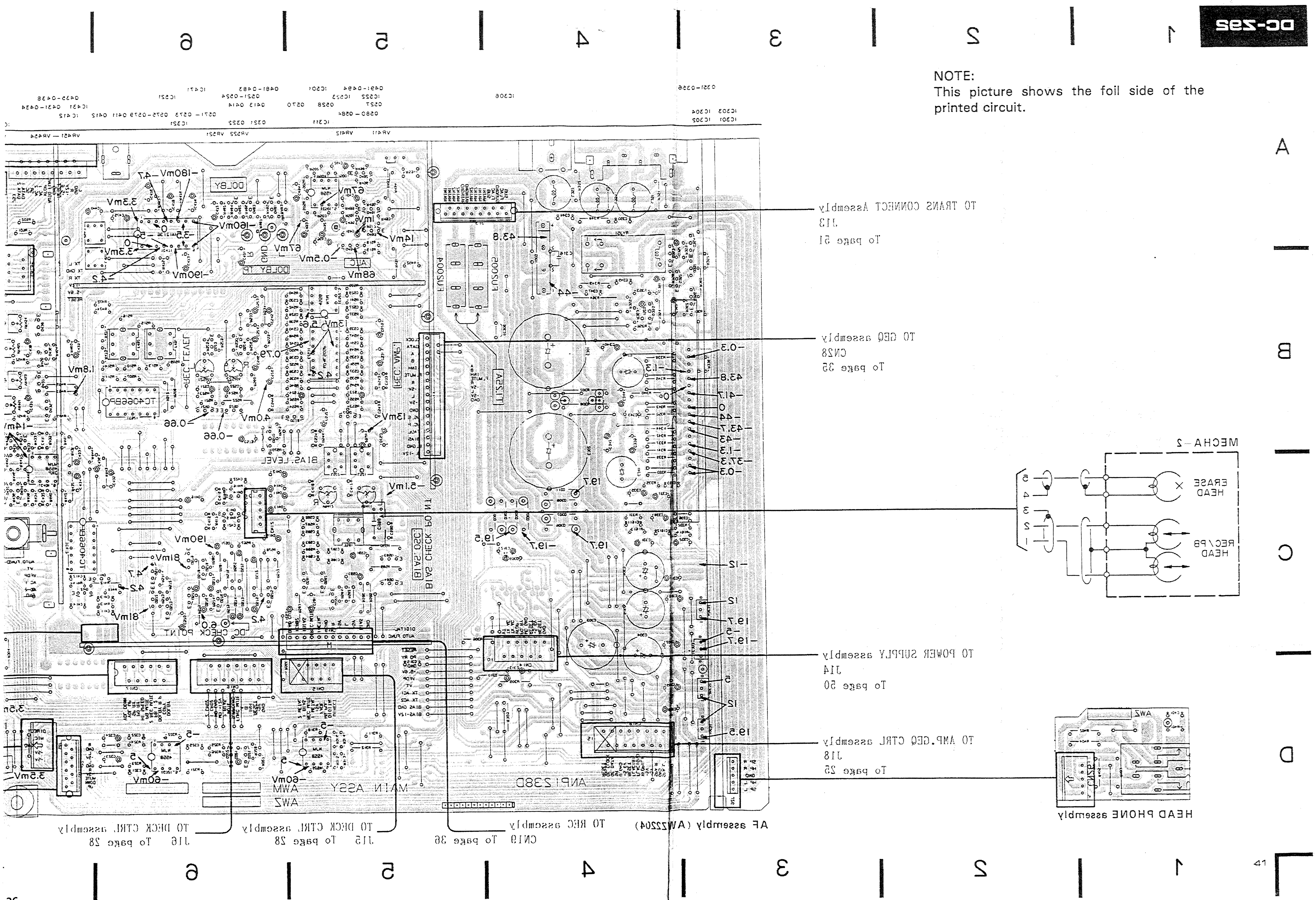

REC LEVEL
Rch
Lch
BIAS OSC
ANP1217-B
AWK1178
CN19
CN11
TO AF assembly
CN19
To page 43
Q1401–Q1404
IC1401
Q1414–Q1418
Q1405–Q1408
Q1413
Q1420
Q1421
Q1419
Q1409–Q1412
VR1401
VR1402
VR1404
VR1403


MECHA-1
ERASE HEAD
REC/PB HEAD
5
4
3
2
1

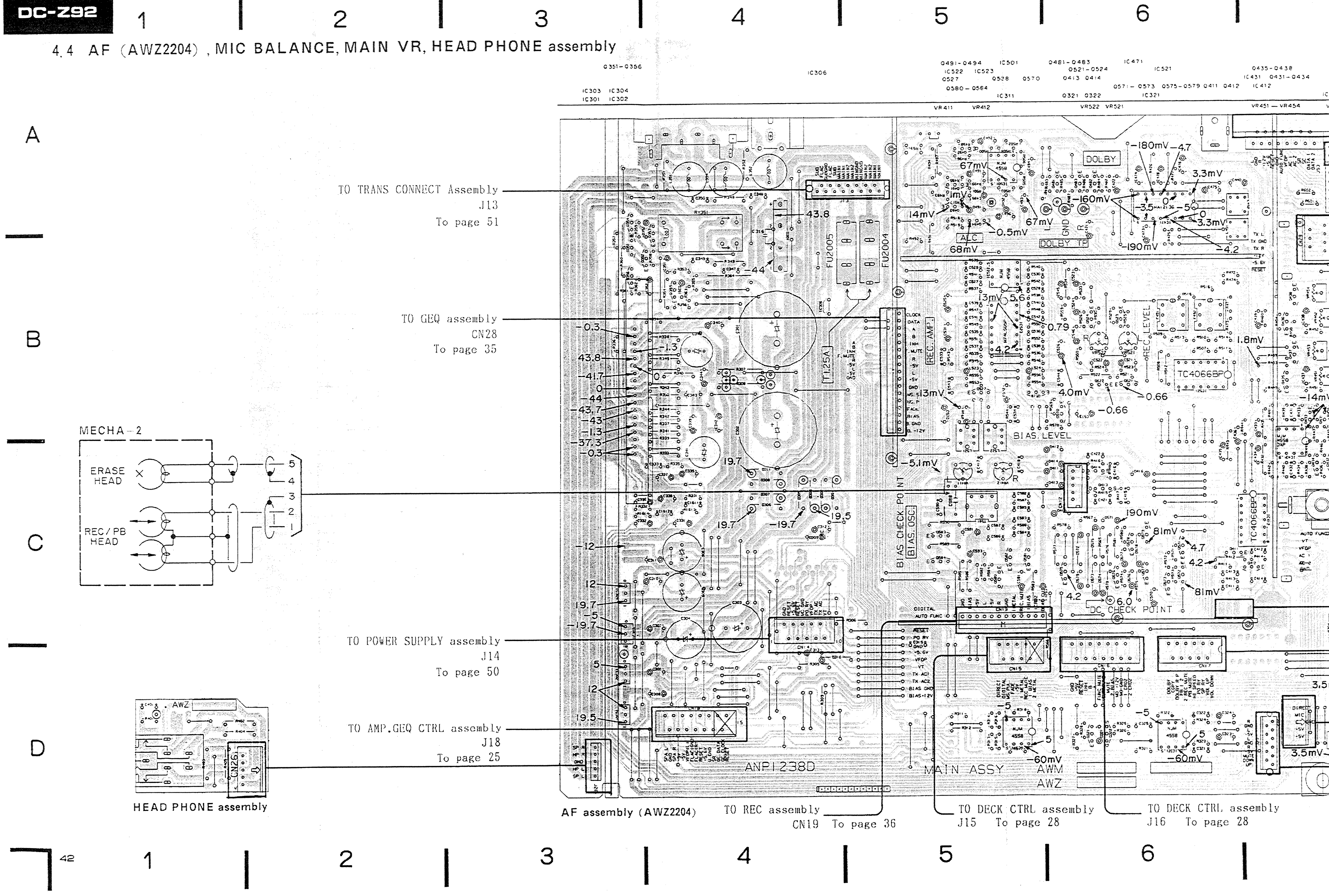
TO AF assembly
CN11
To page 43

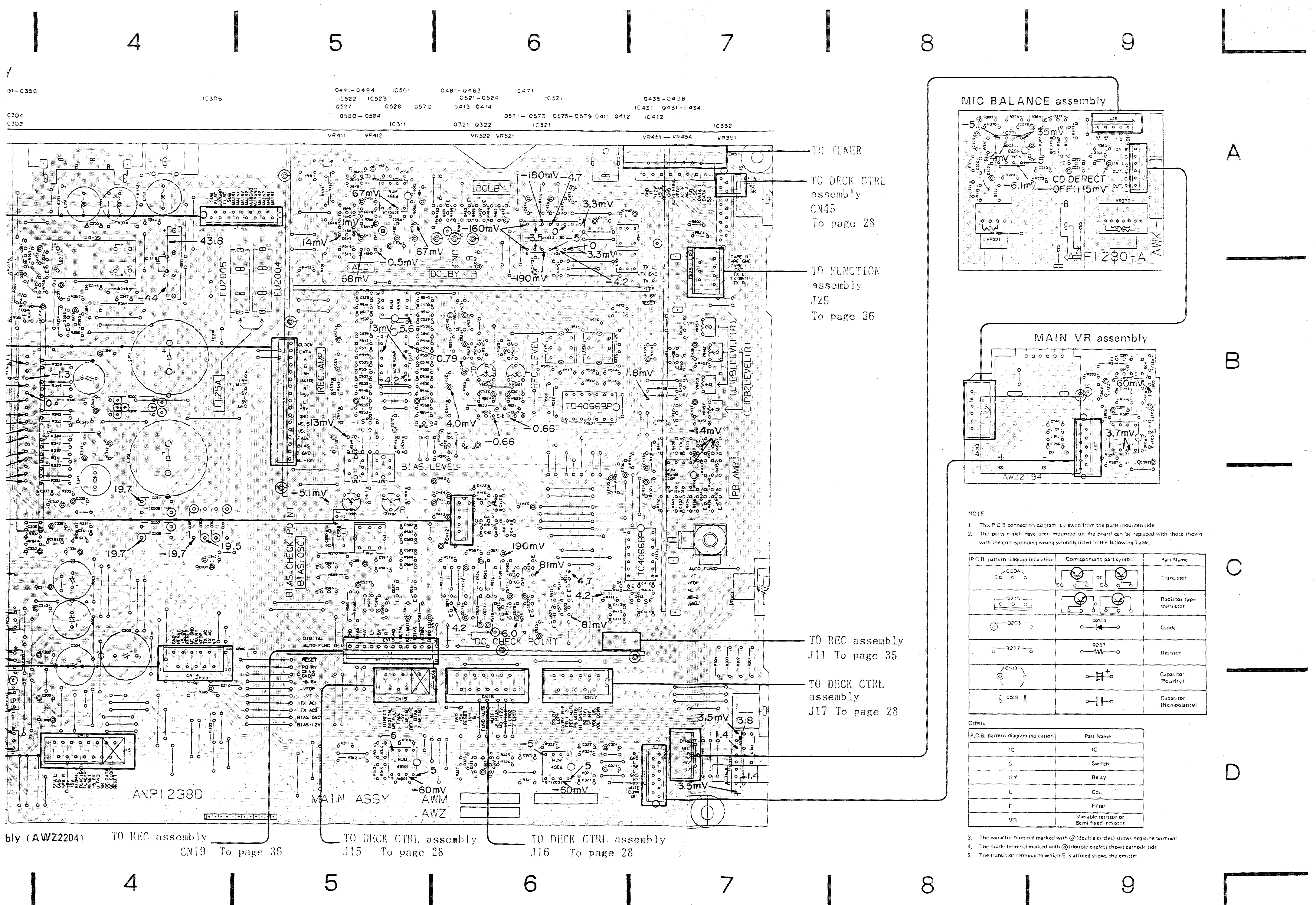

9
8
7
6
5
4
A
B
C
D
MIC BALANCE assembly
ANP1280-A
CD DIRECT
MAIN VR assembly
AWZ2194
TO TUNER
TO DECK CTRL assembly
CN45
To page 28
TO FUNCTION assembly
J29
To page 36
TO REC assembly
J11 To page 35
TO DECK CTRL assembly
J17 To page 28
TO DECK CTRL assembly
J16 To page 28
TO DECK CTRL assembly
J15 To page 28
TO REC assembly
CN19 To page 36
nbly (AWZ2204)
DOLBY
DOLBY TP
ALC
REC LEVEL
TC4066BP
BIAS LEVEL
REC AMP
PB AMP
BIAS OSC
BIAS CHECK POINT
DC CHECK POINT
FU5004
FU5005
MAIN ASSY
AWM
AWZ
ANP1238D

NOTE:
This picture shows the foil side of the printed circuit.


DC-Z92
6
5
4
3
2
1
A
B
C
D
TO TRANS CONNECT Assembly
J13
To page 51
TO GEQ assembly
CN28
To page 35
MECHA-2
ERASE HEAD
REC/PB HEAD
TO POWER SUPPLY assembly
J14
To page 50
TO AMP.GEQ CTRL assembly
J18
To page 25
HEAD PHONE assembly
AF assembly (AWZ2204)
TO REC assembly
CN19
To page 36
TO DECK CTRL assembly
J15
To page 28
TO DECK CTRL assembly
J16
To page 28
MAIN ASSY
AWM
AWZ
ANP1238D
DOLBY
DOLBY TP
ALC
REC LEVEL
BIAS LEVEL
BIAS CHECK POINT
DC CHECK POINT
41

4.4 AF (AWZ2204), MIC BALANCE, MAIN VR, HEAD PHONE assembly


1
2
3
4
5
6
A
B
C
D
TO TRANS CONNECT Assembly
J13
To page 51
TO GEQ assembly
CN28
To page 35
MECHA-2
ERASE HEAD
REC/PB HEAD
TO POWER SUPPLY assembly
J14
To page 50
TO AMP.GEQ CTRL assembly
J18
To page 25
HEAD PHONE assembly
CN26
AWZ
AF assembly (AWZ2204)
TO REC assembly
CN19 To page 36
TO DECK CTRL assembly
J15 To page 28
TO DECK CTRL assembly
J16 To page 28
ANP1238D
MAIN ASSY
AWM
AWZ
DOLBY
DOLBY TP
ALC
REC. AMP
REC LEVEL
BIAS LEVEL
BIAS CHECK POINT
BIAS OSC
DC CHECK POINT
FU2005
FU2004
T1.25A
TC4066BP
AUTO FUNC
DIGITAL



4
5
6
7
8
9
A
B
C
D
151-Q356
IC306
Q491-Q494
IC501
IC522
IC523
Q527
Q528
Q570
Q580-Q584
IC311
Q481-Q483
Q521-Q524
Q413
Q414
Q321
Q322
IC471
IC521
Q571-Q573
Q575-Q579
Q411
Q412
IC321
Q435-Q438
IC431
Q431-Q434
IC412
IC332
C304
C302
VR411
VR412
VR522
VR521
VR451 — VR454
VR391
TO TUNER
TO DECK CTRL assembly CN45 To page 28
TO FUNCTION assembly J29 To page 36
TO REC assembly J11 To page 35
TO DECK CTRL assembly J17 To page 28
TO REC assembly CN19 To page 36
TO DECK CTRL assembly J15 To page 28
TO DECK CTRL assembly J16 To page 28
bly (AWZ2204)
ANP1238D
MAIN ASSY
AWM
AWZ
DOLBY
DOLBY TP
ALC
REC. AMP
REC. LEVEL
BIAS. LEVEL
BIAS CHECK POINT
BIAS. OSC.
DC CHECK POINT
PB. AMP.
LIPB1LEVEL(R)
LIPB2LEVEL(R)
TC4066BP
FU2005
FU2004
T1.25A
43.8
-44
-1.3
19.7
19.7
-19.7
19.5
67mV
11mV
14mV
-0.5mV
67mV
68mV
-180mV
-4.7
3.3mV
-160mV
-3.5
0
-5
0
3.3mV
-190mV
-4.2
13mV
5.6
0.79
4.2
13mV
4.0mV
-0.66
-0.66
1.8mV
-14mV
-5.1mV
190mV
81mV
4.7
4.2
81mV
4.2
6.0
-5
5
-60mV
-5
5
-60mV
3.5mV
3.8
1.4
1.4
3.5mV
MIC BALANCE assembly
-5.1
35mV
-5
4mV
-6.1mV
CD DERECT OFF: 15mV
ANP1280-A
AWK
MAIN VR assembly
60mV
3.7mV
AWZ2194

NOTE

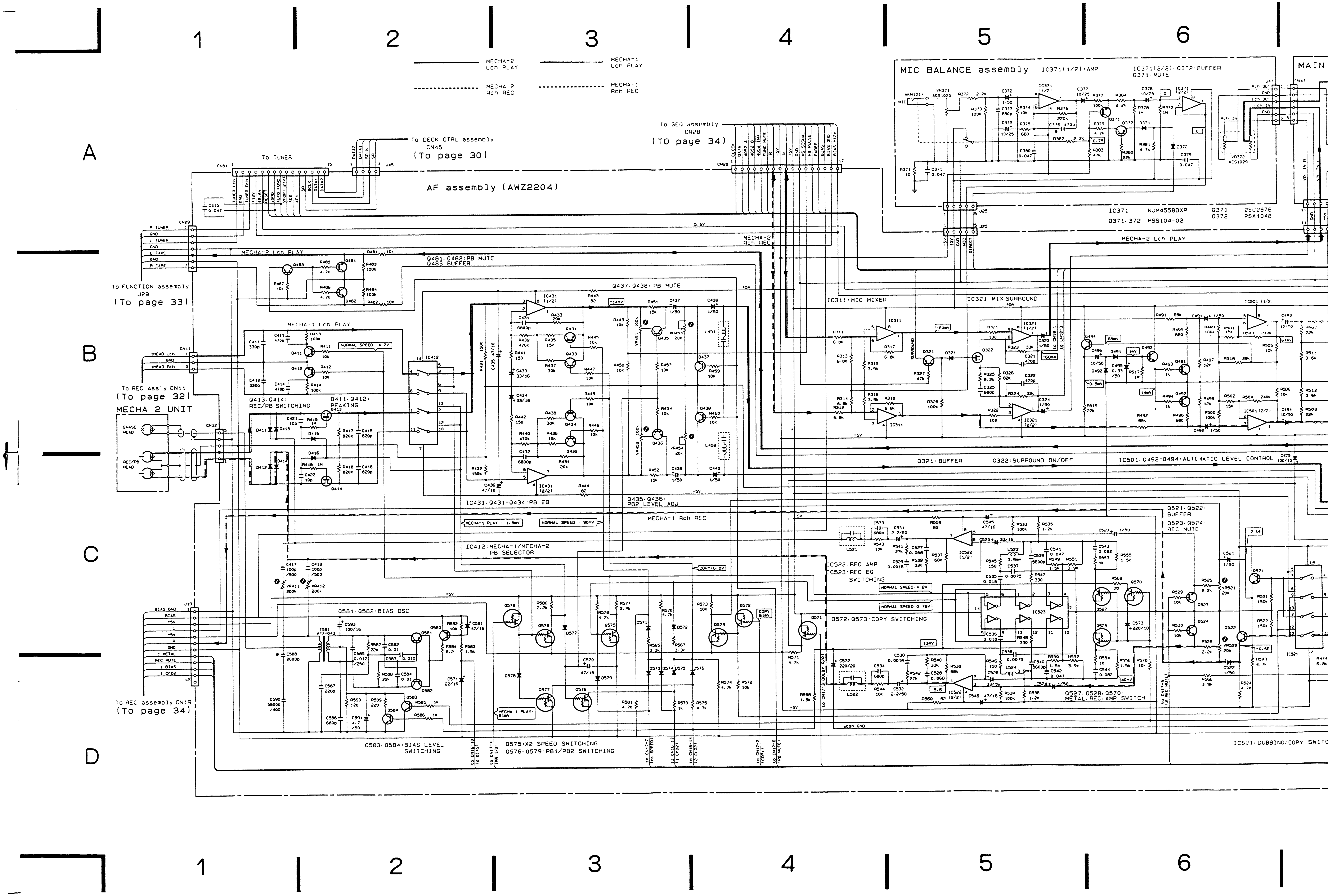
1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

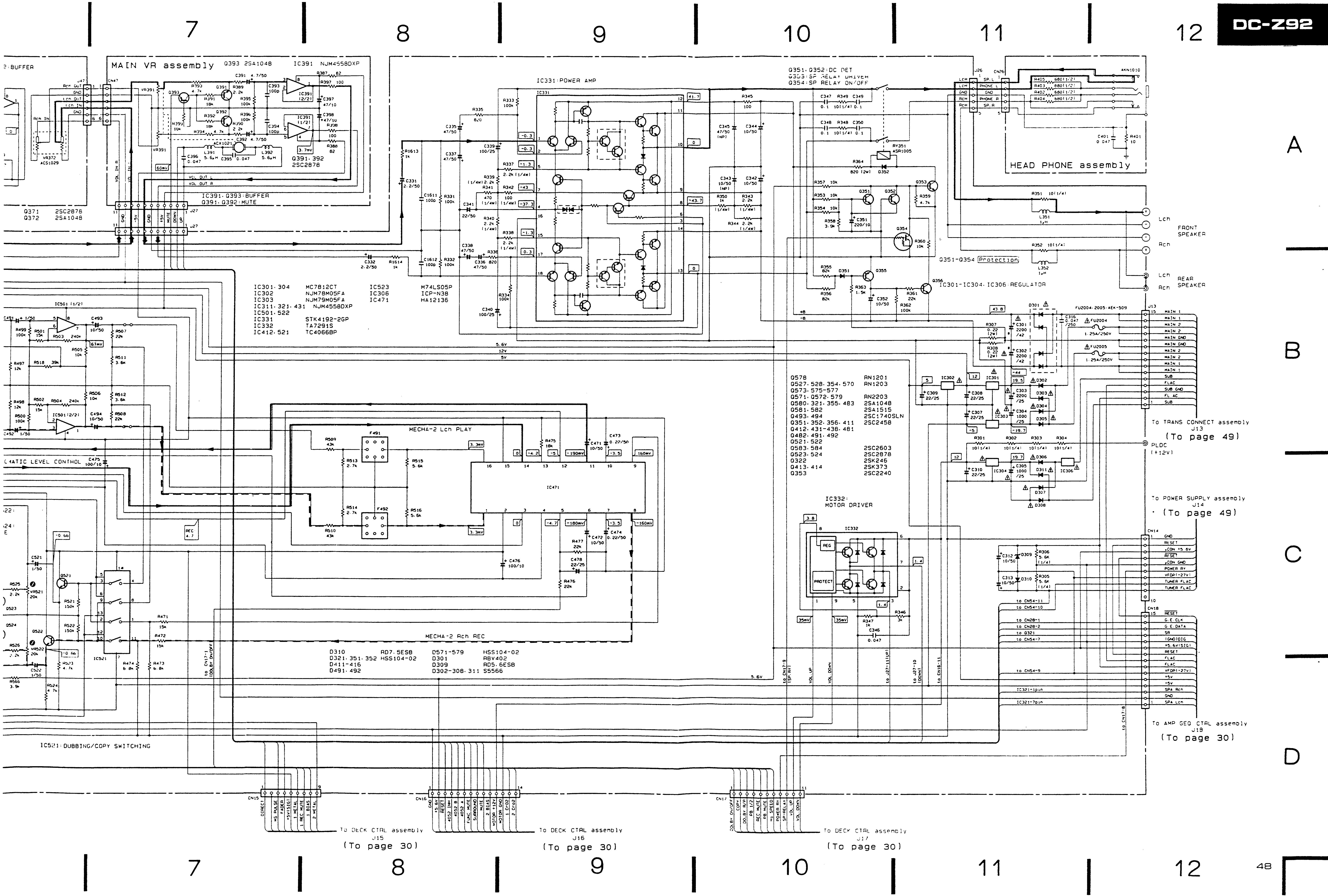
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 E	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

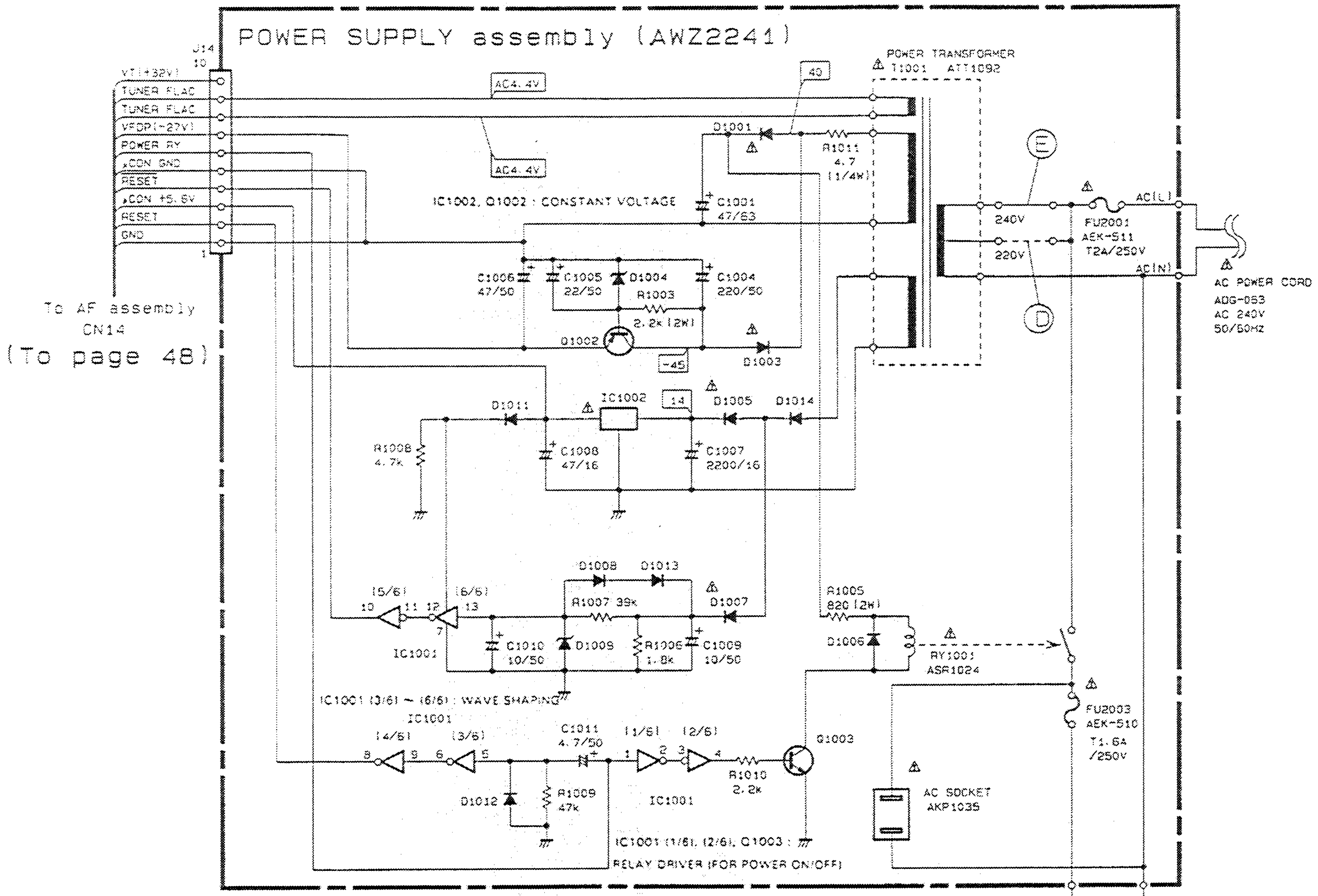
P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ◎ (double circles) shows negative termianl.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

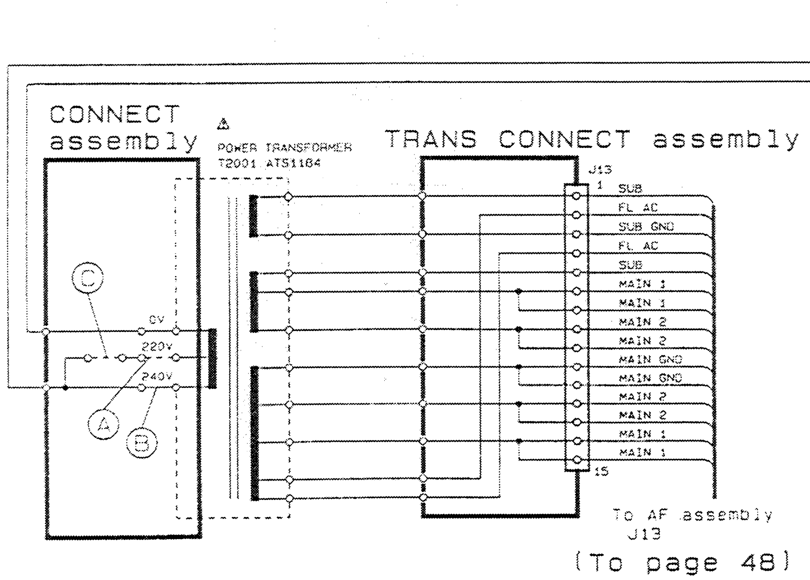

MECHA-2 Lch PLAY
MECHA-1 Lch PLAY
MECHA-2 Rch REC
MECHA-1 Rch REC
MIC BALANCE assembly
IC371(1/2): AMP
IC371(2/2), Q372: BUFFER
Q371: MUTE
IC371 NJM4558DXP
D371, 372 HSS104-02
Q371 2SC2878
Q372 2SA1048
MAIN
To DECK CTRL assembly CN45
(To page 30)
To GEQ assembly CN28
(TO page 34)
To TUNER
AF assembly (AWZ2204)
To FUNCTION assembly J29
(To page 33)
To REC Ass'y CN11
(To page 32)
MECHA 2 UNIT
ERASE HEAD
REC/PB HEAD
To REC assembly CN19
(To page 34)
Q481, Q482: PB MUTE
Q483: BUFFER
Q437, Q438: PB MUTE
Q413, Q414: REC/PB SWITCHING
Q411, Q412: PEAKING
NORMAL SPEED: 4.2V
IC431, Q431-Q434: PB EQ
Q435, Q436: PB2 LEVEL ADJ
IC412: MECHA-1/MECHA-2 PB SELECTOR
MECHA-1 PLAY: 1.8mV
NORMAL SPEED: 90mV
COPY: 6.0V
IC311: MIC MIXER
IC321: MIX SURROUND
Q321: BUFFER
Q322: SURROUND ON/OFF
IC501, Q492-Q494: AUTOMATIC LEVEL CONTROL
IC522: REC AMP
IC523: REC EQ SWITCHING
NORMAL SPEED: 4.2V
NORMAL SPEED: 0.79V
Q572, Q573: COPY SWITCHING
Q521, Q522: BUFFER
Q523, Q524: REC MUTE
Q527, Q528, Q570: METAL, REC, AMP SWITCH
IC521: DUBBING/COPY SWITC
Q581, Q582: BIAS OSC
Q583, Q584: BIAS LEVEL SWITCHING
Q575: X2 SPEED SWITCHING
Q576-Q579: PB1/PB2 SWITCHING
MECHA 1 PLAY: 81mV
COPY 81mV
1 2 3 4 5 6
A B C D

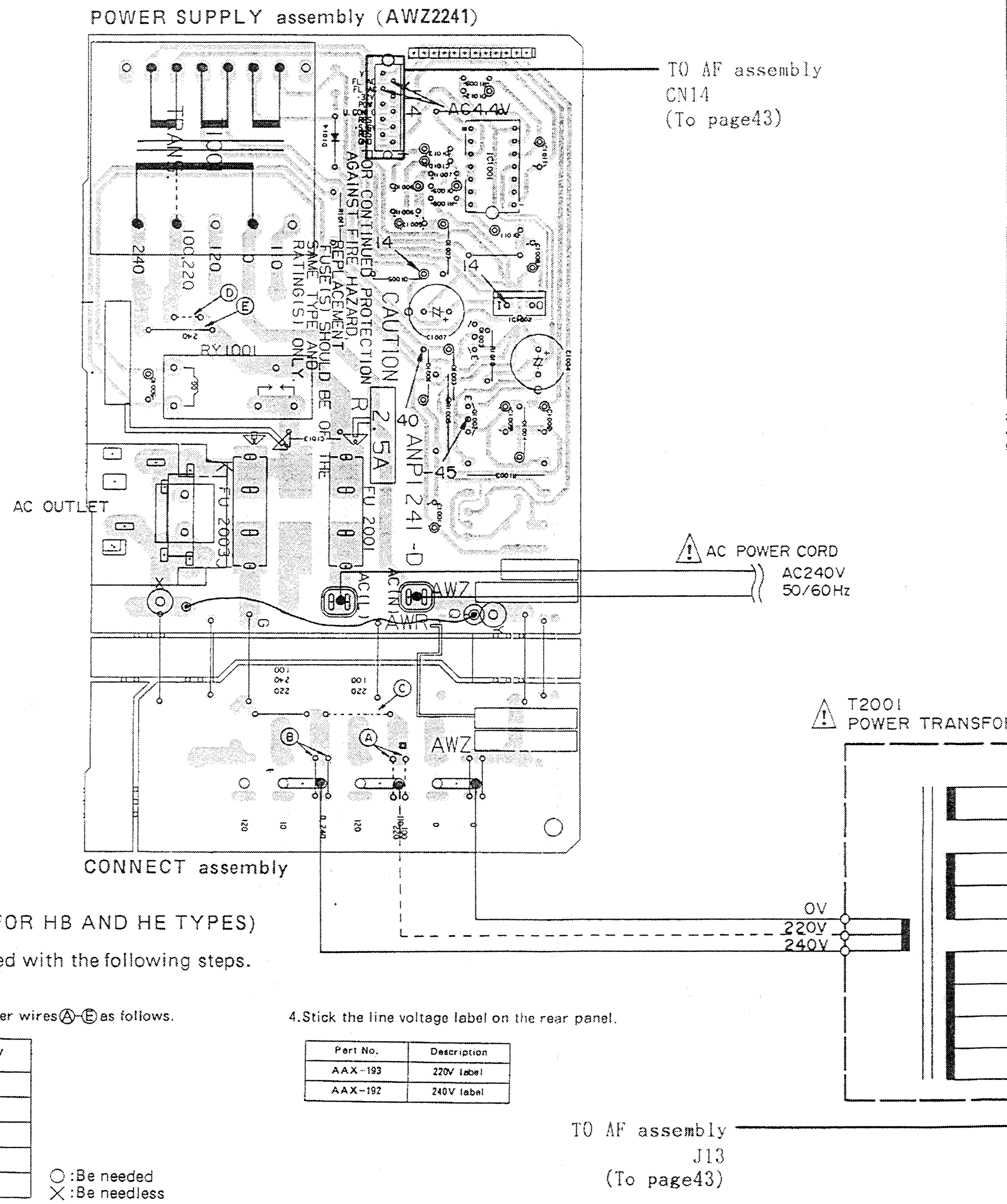

7
8
9
10
11
12
A
B
C
D
MAIN VR assembly
Q393 2SA1048
IC391 NJM4558DXP
IC391, Q393: BUFFER
Q391, Q392: MUTE
Q391, 392 2SC2878
Q371 2SC2878
Q372 2SA1048
IC331: POWER AMP
Q351, Q352: DC DET
Q353: SP RELAY DRIVER
Q354: SP RELAY ON/OFF
HEAD PHONE assembly
Lch
Rch
FRONT SPEAKER
REAR SPEAKER
Q351–Q354 Protection
IC301–IC304, IC306: REGULATOR
IC301–304 MC7812CT
IC302 NJM78M05FA
IC303 NJM79M05FA
IC311, 321, 431 NJM4558DXP
IC501, 522
IC331 STK4192-2GP
IC332 TA7291S
IC412, 521 TC4066BP
IC523 M74LS05P
IC306 ICP-N38
IC471 HA12136
Q578 RN1201
Q527, 528, 354, 570 RN1203
Q573, 575–577
Q571, Q572, 579 RN2203
Q580, 321, 355, 483 2SA1048
Q581, 582 2SA1515
Q493, 494 2SC1740SLN
Q351, 352, 356, 411 2SC2458
Q412, 431–436, 481
Q482, 491, 492
Q521, 522
Q583, 584 2SC2603
Q523, 524 2SC2878
Q322 2SK246
Q413, 414 2SK373
Q353 2SC2240
IC332: MOTOR DRIVER
MECHA-2 Lch PLAY
MECHA-2 Rch REC
IC471
IC521: DUBBING/COPY SWITCHING
D310 RD7.5ESB
D321, 351, 352 HSS104-02
D411–416
D491, 492
D571–579 HSS104-02
D301 RBV402
D309 RD5.6ESB
D302–308, 311 S5566
FU2004, 2005: AEK-509
To TRANS CONNECT assembly J13 (To page 49)
PLDC (+12V)
To POWER SUPPLY assembly J14 (To page 49)
To AMP GEQ CTRL assembly J19 (To page 30)
To DECK CTRL assembly J15 (To page 30)
To DECK CTRL assembly J16 (To page 30)
To DECK CTRL assembly J17 (To page 30)
CN15
CN16
CN17
CN14
CN18
J13
J26
CN26
J27
CN47
J47

4.5 POWER SUPPLY (AWZ2241), CONNECT and TRANS CONNECT assembly


POWER SUPPLY assembly (AWZ2241)
J14
VT(+32V)
TUNER FLAG
TUNER FLAG
VFDP(-27V)
POWER RY
μCON GND
RESET
μCON +5.6V
RESET
GND
To AF assembly CN14
(To page 48)
AC4.4V
AC4.4V
40
-45
14
POWER TRANSFORMER T1001 ATT1092
IC1002, Q1002 : CONSTANT VOLTAGE
D1001
R1011 4.7 (1/4W)
C1001 47/63
C1006 47/50
C1005 22/50
D1004
R1003 2.2k (2W)
C1004 220/50
Q1002
D1003
D1011
IC1002
D1005
D1014
R1008 4.7k
C1008 47/16
C1007 2200/16
D1008
D1013
R1007 39k
D1007
R1005 820 (2W)
D1006
C1010 10/50
D1009
R1006 1.8k
C1009 10/50
IC1001
RY1001 ASR1024
IC1001 (3/6) ~ (6/6) : WAVE SHAPING
C1011 4.7/50
R1010 2.2k
Q1003
D1012
R1009 47k
IC1001 (1/6), (2/6), Q1003 :
RELAY DRIVER (FOR POWER ON/OFF)
240V
220V
FU2001 AEK-511 T2A/250V
AC(L)
AC(N)
AC POWER CORD ADG-053 AC 240V 50/60Hz
FU2003 AEK-510 T1.6A /250V
AC SOCKET AKP1035
E
D

IC1001	TC4069UBP	D1001, 1003, 1005	S5566
IC1002	NJM78M56FA	D1007, 1014	
		D1004	RD33ESB2
Q1003	2SC2240	D1006, 1008	HSS104-02
Q1002	2SB560	D1011-1013	
		D1009	RD5.1ESB


CONNECT assembly
POWER TRANSFORMER T2001 ATS1184
TRANS CONNECT assembly
C
0V
220V
240V
A
B
J13
SUB
FL AC
SUB GND
FL AC
SUB
MAIN 1
MAIN 1
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 2
MAIN 2
MAIN 1
MAIN 1
To AF assembly J13
(To page 48)


POWER SUPPLY assembly (AWZ2241)
TO AF assembly CN14 (To page43)
AC4.4V
14
40
-45
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSE(S) SHOULD BE OF THE SAME TYPE AND RATING(S) ONLY.
2.5A
ANP1241-D
RY1001
FU2003
FU2001
AC OUTLET
AC POWER CORD
AC240V 50/60Hz
AWZ
AWR
CONNECT assembly
T2001 POWER TRANSFORMER
0V
220V
240V
TO AF assembly J13 (To page43)

Line Voltage Selection(FOR HB AND HE TYPES)

Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the position of the jumper wires Ⓐ-Ⓔ as follows.

Voltage / Jumper wire	220V	240V
Ⓐ	○	×
Ⓑ	×	○
Ⓒ	○	×
Ⓓ	○	×
Ⓔ	×	○

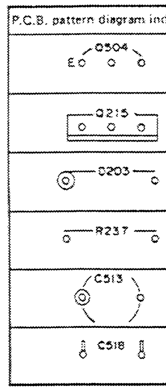
○ :Be needed
× :Be needless

4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

NOTE

1. This P.C.B connection
2. The parts which have with the corresponding


P.C.B. pattern diagram ind
Q504
E
Q215
C203
R237
C513
C518

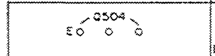
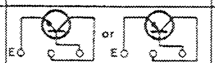
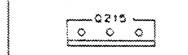
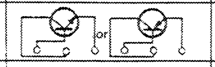
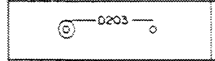
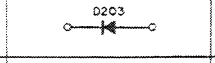
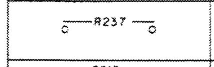
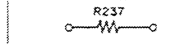
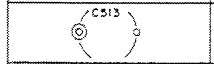
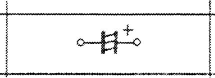
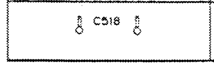
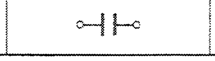
Others

P.C.B. pattern diagram ind
IC
S
RY
L
F
VR

3. The capactor terminal
4. The diode terminal ma
5. The transistor termina

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

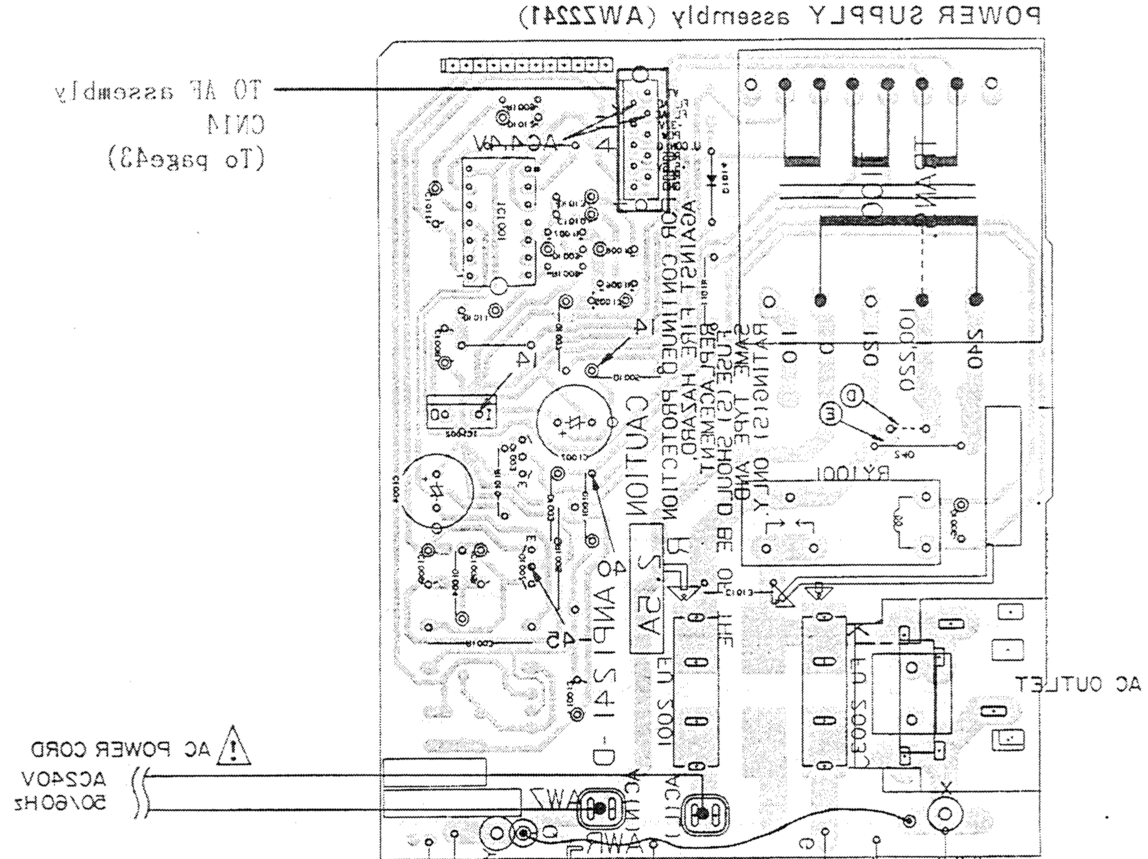
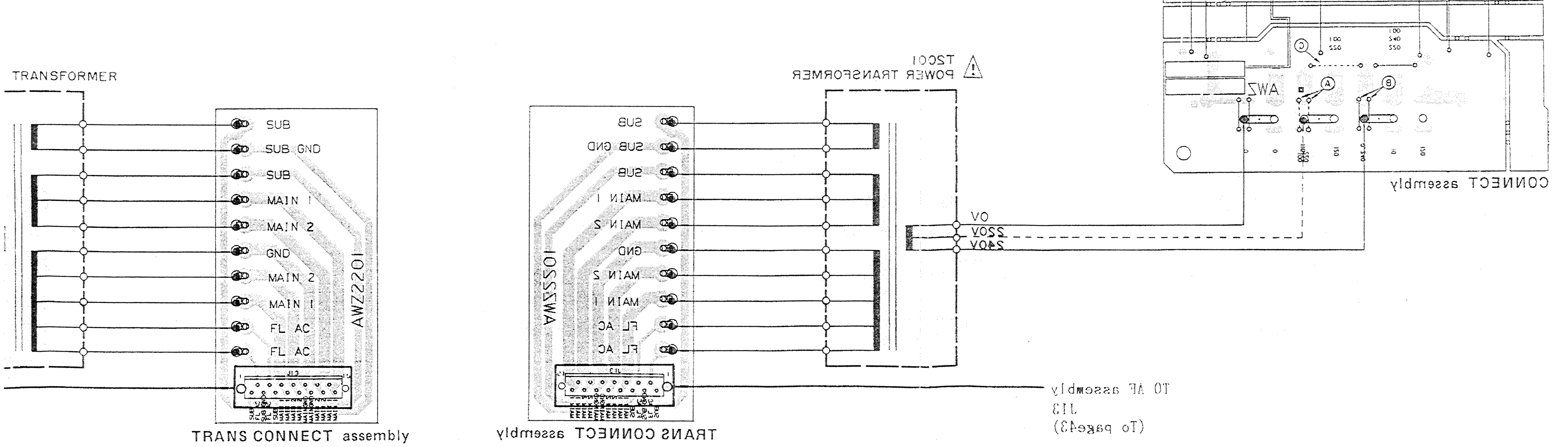
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
		Transistor
		Radiator type transistor
		Diode
		Resistor
		Capacitor (Polarity)
		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ◎ (double circles) shows negatine termianl.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

NOTE:
This picture shows the foil side of the printed circuit.



POWER SUPPLY assembly (AWZ2241)
TO AF assembly
CN14
(To page43)
AC OUTLET
AC POWER CORD
AC240V
50/60Hz
CONNECT assembly
T2001
POWER TRANSFORMER
0V
220V
240V
TRANSFORMER
SUB
SUB GND
SUB
MAIN 1
MAIN 2
GND
MAIN 2
MAIN 1
FL AC
FL AC
AWZ2201
TRANS CONNECT assembly
TRANS CONNECT assembly
TO AF assembly
J13
(To page43)

5. ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω　56×10^1　561..........................RD1/4PS$\boxed{5}\boxed{6}\boxed{1}$J
47kΩ　47×10^3　473..........................RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$J
0.5Ω　0R5..RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1Ω　010..RS1P$\boxed{0}\boxed{1}\boxed{0}$K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
5.62kΩ　562×10^1　5621........................RN1/4SR$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

Miscellaneous Parts

P.C.BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	FUNCTION assembly	AWK1174
	MIC BALANCE assembly	
	AF assembly	AWZ2204
	MAIN VR assembly	
	HEAD PHONE assembly	
	TRANS CONNECT assembly	
	AMP,GEQ CTRL assembly	AWZ2056
	DECK−1 SW assembly	
	DECK−2 SW assembly	
	DECK CTRL assembly	AWZ2319

Note: The GEQ assembly (AWG1016) and the REC assembly (AWK1178) are some of the parts for the AF assembly (AWZ2204).

Mark	Symbol & Description	Part No.
	GEQ assembly	AWG1016
	REC assembly	AWK1178
	DECK CENTER assembly	
	POWER SUPPLY assembly	AWZ2241
	CONNECT assembly	

OTHERS

Mark	Symbol & Description	Part No.
⚠	T2001 Power Transformer (AC220V/240V)	ATS1184
⚠	FU2004,FU2005 Fuse (1.25A/250V)	AEK−509
⚠	FU2003 Fuse (T1.6A/250V)	AEK−510
⚠	FU2001 Fuse (T2A/250V)	AEK−511
⚠	AC Power cord	ADG−063
	Hall IC	AZE1018
	Leaf SW	AZS1054
	Leaf SW	AZS1034
	P.C.BOARD	AZN1836
	Bobbin	AZS1035
	Bobbin	AZS1036
	Motor assembly	AZX1020
	R/P E Head	AZP1014
	Head frame assembly	AZP1016

FUNCTION assembly (AWK1174)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC901,IC904	NJM4558DXP
	IC902	TC4052BP
	IC903	TC4066BP
	Q901,Q903	DTA143ES
	Q902	DTC143ES
	D901	HSS104−02

CAPACITORS

Mark	Symbol & Description	Part No.
	C903−C906,C929,C930	CCCSL101J50
	C907,C908	CEAS2R2M50
	C909,C910	CKCYB152K50
	C911,C912	CKCYB562K50
	C913,C914	CEAS470M10
	C919,C920,C931,C932	CEAS100M25

RESISTORS

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM☐☐☐J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P (CD, VIDEO IN)	AKB1009
	Terminal 4P (PHONO, VIDEO OUT)	AKB1085

MIC BALANCE assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC371	NJM4558DXP
	Q372	2SA1048
	Q371	2SC2878
	D371,D372	HSS104-02

CAPACITORS

Mark	Symbol & Description	Part No.
	C376	ACG1019
	C372	CEAS010M50
	C375,C377,C378	CEAS100M25
	C371,C379,C380	CKCYF473Z50
	C373	CKMYB681K50

RESISTORS

Mark	Symbol & Description	Part No.
	VR371	ACS1025
	VR372	ACS1029
	Other resistors	RD1/8PM☐☐☐J

OTHERS

Mark	Symbol & Description	Part No.
	Mic jack	AKN1017

AF assembly (AWZ2204)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC471	HA12136
	IC306	ICP−N38
	IC301,IC304	MC7812CT
	IC523	M74LS05P
	IC311,IC321,IC431,IC501,IC522	NJM4558DXP
	IC302	NJM78M05FA
	IC303	NJM79M05FA
	IC331	STK4192-2GP
	IC332	TA7291S
	IC412,IC521	TC4066BP
	Q578	RN1201
	Q354,Q527,Q528,Q570,Q573 Q575−577	RN1203
	Q571,Q572,Q579	RN2203
	Q321,Q355,Q483,Q580	2SA1048
	Q581,Q582	2SA1515
	Q493,Q494	2SC1740SLN
	Q353	2SC2240
	Q351,Q352,Q356,Q411,Q412 Q431−438,Q481,Q482,Q491 Q492,Q521,Q522	2SC2458
	Q583,Q584	2SC2603
	Q523,Q524	2SC2878
	Q322	2SK246
	Q413,Q414	2SK373
	D321,D351,D352,D411−D416 D491,D492,D571−579	HSS104−02
	D301	RBV402
	D309 Zener Diode	RD5.6ESB
	D310 Zener Diode	RD7.5ESB
	D302−D308,311	S5566

COILS & TRANSFORMER

Mark	Symbol & Description	Part No.
	F491,F492	ATF1064
	L351,L352 (1mH)	ATH−133
	L521,L522	ATM−037
	L451,L452	ATM1001
	T581	ATX−043
	L523,L524 Inductor (3.9mH)	LTA392J

RELAY

Mark	Symbol & Description	Part No.
	RY351	ASR1005

CAPACITORS

Mark	Symbol & Description	Part No.
	C588 (2000p)	ACE1020
	C301,C302 (2200/42)	ACH−252
	C1611,C1612	CCCSL101J50
	C417,C418	CCCSL101K500
	C421,C422	CCMSL100D50
	C343	CEANP100M50
	C341	CEANP220M50
	C345	CEANP470M50
	C473,C474	CEASR22M50
	C495	CEASR33M50
	C323,C324,C437−C440,C491 C492,C521−C524	CEAS010M50
	C312,C313,C342,C344,C352 C471,C472,C493,C494,C496	CEAS100M50
	C475,C476	CEAS101M10
	C593	CEAS101M16
	C339,C340	CEAS101M25
	C304,C305	CEAS102M25
	C331,C531,C532	CEAS2R2M50
	C571	CEAS220M16

Mark	Symbol & Description	Part No.
	C307−C310,C478	CEAS220M25
	C351,C572,C573	CEAS221M10
	C303	CEAS222M25
	C433,C434,C525,C526	CEAS330M16
	C591	CEAS4R7M50
	C435,C436	CEAS470M10
	C545,C546,C570,C581	CEAS470M16
	C335,C337,C338	CEAS470M50
	C332	CEHAQ2R2M50
	C336	CEHAQ470M50
	C527,C528	CFTXA683J50
	C315,C346	CKDYF473Z50
	C587	CKMYB221K50
	C411,C412	CKMYB331K50
	C413,C414	CKMYB471K50
	C325,C533,C534,C586	CKMYB681K50
	C415,C416	CKMYB821K50
	C582,C584	CQMA103K50
	C347−C350	CQMA104K50
	C585	CQMA123K250
	C583	CQMA153K50
	C529,C530	CQMA182J50
	C535,C536	CQMA183J50
	C541,C542	CQMA473J50
	C316	CQMA473K250
	C539,C540	CQMA562J50
	C590	CQMA562K400
	C431,C432	CQMA682J50
	C537,C538	CQMA752J50
	C543,C544	CQMA823J50
	C321,C322	CQSA471J50

RESISTORS

Mark	Symbol & Description	Part No.
	VR451,VR452 (100k)	VRTM6H104
	VR453,454 (20k)	VRTM6H203
	VR521,VR522 (20k)	VRTM6V203
	VR411,VR412 (200k)	VRTM6V204
	R589,590	RD1/2PM□□□J
	R342,R345,R350−R352	RD1/4PMFL□□□J
	R348,R349	RD1/4PMF100J
	R301−R306,R337−R340,R343 R344	RD1/4PM□□□
	R341	RFA1/4PL471J
	R307,R308,R364	RS2LMF□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 2P (REAR SPEAKER)	AKB1039
	Speaker terminal 4P	AKE1012
	DC Jack	AKN−203
	GEQ assembly	AWG1016
	REC assembly	AWK1178

GEQ Ass'y (AWG1016)

Note: This GEQ assembly (AWZ1016) is a part of AF assembly (AWZ2204).

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC601,IC602	LA3607
	IC603	LC7522
	IC604	M5218L
	Q609	DTA124ES
	Q601	DTC143ES
	Q603	RN2204
	Q606	2SA1515
	Q602,Q607,Q608	2SC2458
	Q604,Q605	2SC2603
	D601,D602,D605	HSS104-02
	D603 Zener Diode	HZS5ALL
	D604 Zener Diode	HZS7B2L

CAPACITORS

Mark	Symbol & Description	Part No.
	C638	CCCSL101J50
	C640	CCCSL560J50
	C601,C602,C607,C608	CEASR15M50
	C603,C604	CEASR47M50
	C641	CEAS0R1M50
	C639	CEAS010M50
	C643	CEAS100M25
	C644,C645	CEAS101M10
	C631−C634	CEAS2R2M50
	C642	CEAS331M16
	C621,C622,C627,C628	CGMYB182M50
	C613,C614,C619,C620	CGMYX103M16
	C617,C618,C623,C624	CGMYX472M25
	C629,C630	CKCYB331K50
	C635−C637	CKCYF473Z50
	C609,C610,C615,C616	CKCYX273M25
	C605,C606,C611,C612	CKCYX683M25
	C625,C626	CKMYB681K50

RESISTORS

Mark	Symbol & Description	Part No.
	R609,R610	RA8T105J
	Other resistors	RD1/8PM□□□J

REC assembly (AWK1178)

Note: This REC assembly (AWK1178) is a part of AF assembly (AWZ2204).

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
	IC1401	NJM4558DXP
	Q1045−Q1408,Q1413,Q1419, Q1421	RN1203
	Q1420	RN2203
	Q1414	2SA1115
	Q1415,Q1416	2SA1515
	Q1411,Q1412	2SC2458
	Q1417,Q1418	2SC2603
	Q1401−Q1404	2SC2878
	Q1409,Q1410	2SK373
	D1401−D1409	HSS104-02

COILS & TRANSFORMERS

Mark	Symbol & Description	Part No.
	L1401,L1402	ATM−037
	L1403,L1404	LTA392J
	T1401	ATX−043

CAPACITORS

Mark	Symbol & Description	Part No.
	C1431	ACE1020
	C1425	CCCSL221J50
	C1421,C1422	CCMSL100D50
	C1401,C1402	CEAS010M50
	C1439	CEAS101M16
	C1417,C1418	CEAS2R2M50
	C1437,C1438	CEAS3R3M50
	C1403,C1404	CEAS330M50
	C1436	CEAS4R7M50
	C1415,C1416	CEAS470M10
	C1423,C1424	CEAS470M16
	C1434,C1435	CKCYB471K500
	C1419,C1420,C1427	CKMYB681K50
	C1428,C1429	CQMA103J50
	C1430	CQMA123K250
	C1426	CQMA153J50
	C1412,C1413	CQMA182J50
	C1407,C1408	CQMA183J50
	C1433	CQMA272K400
	C1405,C1406	CQMA333J50
	C1409,C1410	CQMA393J50
	C1432	CQMA562K400
	C1411,C1414	CQMA683J50

RESISTORS

Mark	Symbol & Description	Part No.
	R1443,R1444	RD1/2PM☐☐☐J
	VR1401,VR1402	VRTM6H203
	VR1403,VR1404	VRTM6H204
	Other resistors	RD1/8PM☐☐☐J

MAIN VR assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC391	NJM4558DXP
	Q393	2SA1048
	Q391,Q392	2SC2878

COILS

Mark	Symbol & Description	Part No.
	L391,L392 Axial Inductor (5.6μH)	LAU5R6K

CAPACITORS

Mark	Symbol & Description	Part No.
	C393,C394	CCMSL101J50
	C391,C392	CEAS4R7M50
	C397,C398	CEAS470M10
	C395,C396	CKCYF473Z50

RESISTORS

Mark	Symbol & Description	Part No.
	VR391	ACX1021
	Other resistors	RD1/8PM☐☐☐J

HEAD PHONE assembly

CAPACITORS

Mark	Symbol & Description	Part No.
	C401	CKCYF473Z50

RESISTORS

Mark	Symbol & Description	Part No.
	R402−R405	RD1/2PMF681J
	R401	RD1/8PM100J

OTHERS

Mark	Symbol & Description	Part No.
	Head phone Jack	AKN1010

TRANS CONNECT assembly

No parts are supplied with the TRANS CONNECT assembly.

AMP,GEQ CTRL assembly (AWZ2056)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC701,IC702	M74LS05P
	IC721−IC725,IC727	NJM4558DXP
	IC771	PD3133
	IC726	TC4051BP
	IC703	TC4081BP

Mark	Symbol & Description	Part No.
	Q701,Q702	DTA143ES
	Q721−Q729	DTC143ES
	Q730	2SA1048
	Q731−Q733	2SC2458
	D703,D705,D707,D709,D711	AEL1065
	D713,D715	AEL1081
	D721−D728,D771−D780,D782 D785,D786	HSS104−02

COILS

Mark	Symbol & Description	Part No.
	X771 Ceramic resonator	ASS1018
	L771 Axial inductor (22μH)	LAU220K

SWITCHES

Mark	Symbol & Description	Part No.
	S701,S703,S705,S707,S709, S711,S715,S717,S771−S793 Tact switch (SURROUND, CD, PHONO, TUNER, TAPE, DAT, CD DIRECT, POWER, 60Hz+, 150Hz+, 400Hz+, 1kHz+, 2.4kHz+, 6kHz+, 15kHz+, 60Hz−, 150Hz−, 400Hz−, 1kHz−, 2.4kHz−, 6kHz−, 15kHz−, A, B, C, D, E, PRESET/MEMORY, EQUALIZER ON/OFF, FLAT/REVERSE, MEMORY)	ASG1029

CAPACITORS

Mark	Symbol & Description	Part No.
	C773 (0.047)	ACH1070
	C775	CKCYB102K50
	C729,C730	CKCYB182K50
	C733,C734	CKCYB331K50
	C727,C728	CKCYB472K50
	C731,C732	CKCYB821K50
	C725,C726	CKCYX123M25
	C723,C724	CKCYX333M25
	C735−C741,C771,C772,C774, C776	CKDYF473Z50
	C721,C722	CKDYX823M25

RESISTORS

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	V772 Fluorescent indicator tube	AAV1069
	V771 Fluorescent indicator tube	AAV1071

DECK−1 SW assembly

SWITCHES

Mark	Symbol & Description	Part No.
	S811−S815 Tact switch (1FWD, 1REV, 1FF, 1REW, 1STOP)	ASG1029

DECK−2 SW assembly

SWITCHES

Mark	Symbol & Description	Part No.
	S821−S825 Tact switch (2FWD,2REV,2FF,2REW,2STOP)	ASG1029

DECK CTRL assembly (AWZ2319)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC802	M74LS42P
	IC801	PDE029-C
	Q813−815	DTC143ES
	Q803−806	RN1201
	Q801,802	RN2204
	Q807−812	2SA1515
	Q816	RN2203
	D801,D802,D807−D816 D820−D826,D833−D836 D751,D752,D754	HSS104−02

COILS

Mark	Symbol & Description	Part No.
	X801 Ceramic resonator	ASS1018
	L801 Axial inductor (22μH)	LAU220K

CAPACITORS

Mark	Symbol & Description	Part No.
	C801	CEASR33M50
	C803	CEAS101M10
	C802	CEAS101M16
	C839,C840	CKDYB102K50
	C804−C807	CKDYF473Z50

RESISTORS

Mark	Symbol & Description	Part No.
	VR803 (10k)	VRTM6H103
	VR801,VR802 (20k)	VRTM6H203
	R899	RD1/2PM1R8J
	Other resistors	RD1/8PM□□□J

DECK CENTER assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	D848 LED	AEL1025
	D869 LED	AEL1033
	D845,D846 LED	AEL1075
	D841–D844 LED	AEL1076
	D850–D853 LED	AEL1094
	D854–D859	HSS104–02

SWITCHES & RELAIES

Mark	Symbol & Description	Part No.
	S860 Tact switch (DECK-1 PAUSE, DECK-2, MUTE, DECK-1 MUTE, COPY, DECK-2 PAUSE, PARA ASES, PARA REC, FADER, DECK-2 REC, RELAY ASES, ASES, HI-SPEED COPY, RELAY REC, DECK-1 REC)	ASG–711
	S851–S859,S861–864 Tact switch	ASG1029
	S848,S849 Slide switch (DOLBY, REVERSE MODE)	ASH1014

RESISTORS

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM□□□J

POWER SUPPLY assembly (AWZ2241)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
	IC1002	NJM78M56FA
	IC1001	TC4069UBP
	Q1002	2SB560
	Q1003	2SC2240
	D1006,D1008,D1011–D1013	HSS104–02
	D1004 Zener Diode	RD33ESB2
	D1009 Zener Diode	RD5.1ESB
	D1001,D1003,D1005,D1007, D1014	S5566

TRANSFORMER

Mark	Symbol & Description	Part No.
⚠	T1001 Power transformer	ATT1092

RELAY

Mark	Symbol & Description	Part No.
⚠	RY1001 Relay	ASR1024

CAPACITORS

Mark	Symbol & Description	Part No.
	C1009,C1010	CEAS100M50
	C1005	CEHAQ220M50
	C1004	CEAS221M50
	C1007	CEAS222M16
	C1011	CEAS4R7M50
	C1008	CEAS470M16
	C1006	CEAS470M50
	C1001	CEAS470M63

RESISTORS

Mark	Symbol & Description	Part No.
	R1011	RD1/4PMFL4R7J
	R1003	RS2LMF222J
	R1005	RS2LMF821J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
⚠	1P AC SOCKET (OUTLET)	AKP1035

CONNECT assembly

No parts are supplied with the connection assembly.

6. ADJUSTMENTS

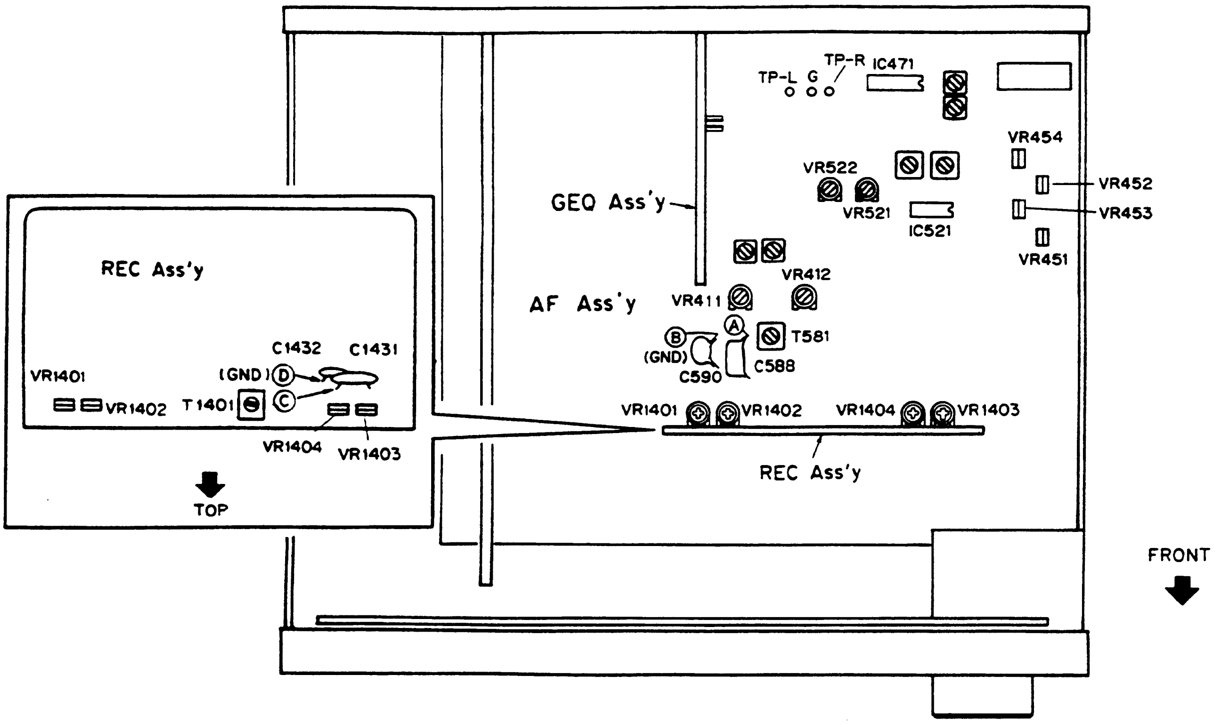

REC Ass'y
C1432
C1431
VR1401
(GND) D
C
VR1402
T1401
VR1404
VR1403
TOP
TP-R
TP-L
G
IC471
VR454
VR522
VR452
VR521
VR453
IC521
VR451
GEQ Ass'y
VR412
AF Ass'y
VR411
A
B
(GND)
T581
C590
C588
VR1401
VR1402
VR1404
VR1403
REC Ass'y
FRONT

Fig 6.1. Adjustment location

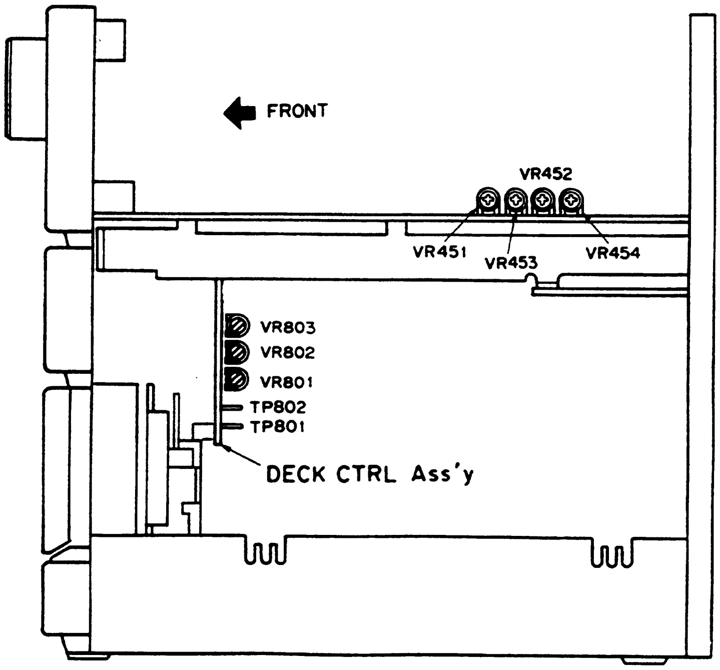

FRONT
VR452
VR451
VR453
VR454
VR803
VR802
VR801
TP802
TP801
DECK CTRL Ass'y

Fig 6.2. Adjustment location

- Adjustment and measurement are usually made in the AF Ass'y, unless specified otherwise.
- Set the graphic equalizer to OFF, the balance control to Center and the microphone mixing volume to MIN.
- The function should always be set to "TAPE" unless otherwise specified.

Adjustment of Mechanical System

- Test tape: STD-301 (3 kHz, 30 min)
- Setting of double speed mode: Short-circuit TP801 and TP802 of the DECK CTRL Ass'y. To release the mode, break the short circuit.

1. Adjustment of tape speed

No.	Mode	Input signal & Test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	PLAY	Playback the STD-301 tape to 3 kHz.	Deck I	DECK CTRL Ass'y VR801	TP-L (Lch)	Press the PLAY SW and adjust the frequency to 3010 Hz ±10 Hz. Make sure that the wow and flutter is within 0.2 %.	
2	PLAY (Double speed mode)			—		Press the PLAY SW in double speed mode and confirm that the frequency is 6000 Hz ±1000 Hz. Note down the figure.	Release the double speed mode after adjustment.
3	PLAY (Double speed mode)		Deck II	DECK CTRL Ass'y VR803	TP-R (Rch)	Press the PLAY SW in double speed mode and adjust the frequency to be within ±30 Hz of the figure recorded at step No. 2.	Release the double speed mode after adjustment.
4	PLAY			DECK CTRL Ass'y VR802		Press the PLAY SW and adjust the frequency to 3010 Hz ±10 Hz. Make sure that the wow and flutter is within 0.2 %.	

Adjustment of Electric System

■ Check and conduct the following before adjusting the electric system.

1. Adjustment of tape speed has been completed.
2. Clean and demagnetize the head using a head eraser.
3. When measured, the level should be 0 dBV = 1 Vrms.
4. Use side A of the specified tape for adjustment.
   STD-331B: For adjustment of playback system.
   STD-630: NORMAL blank tape
   STD-620: CrO_2 blank tape
   STD-610: METAL blank tape
5. Prepare the following measuring devices:
   AC millivoltmeter, Low-frequency oscillator, Attenuator, Oscilloscope
6. Adjust both L and R channels, unless specified otherwise.
7. Set the DOLBY NR switches to OFF, unless specified otherwise.
8. Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
9. Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an imperfect result.

List of Adjustment

Deck I

1. Head azimuth adjustment
2. Playback level adjustment
3. Adjustment frequency characteristics of recording/playback
4. Recording level adjustment

Deck II

1. Head azimuth adjustment
2. Playback level adjustment
3. Adjustment frequency characteristics of recording/playback
4. Recording level adjustment

Checking of Decks I and II

1. Make sure the ALC is operating properly.

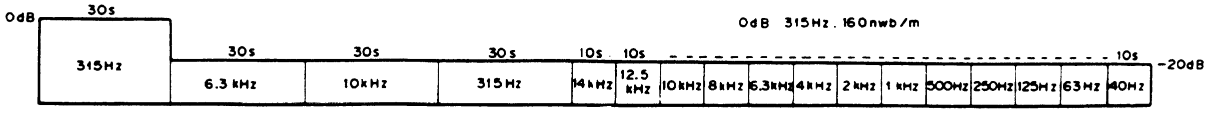

0dB
30s
315Hz
30s
6.3 kHz
30s
10kHz
30s
315Hz
10s
14kHz
10s
12.5 kHz
10kHz
8kHz
6.3kHz
4kHz
2kHz
1kHz
500Hz
250Hz
125Hz
63Hz
40Hz
10s
0dB 315Hz. 160nwb/m
-20dB

Fig. 6.3 Test tape STD-331B

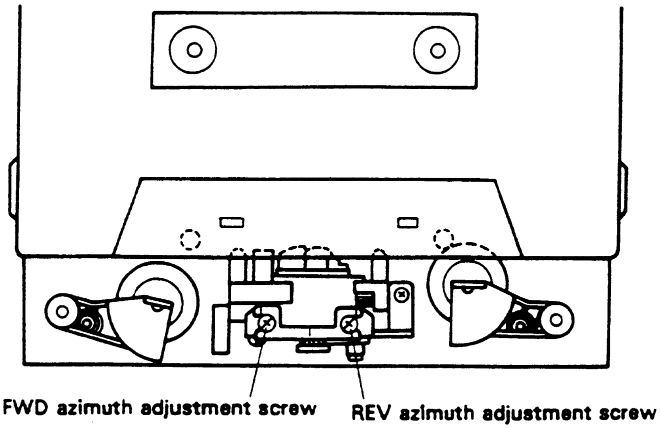
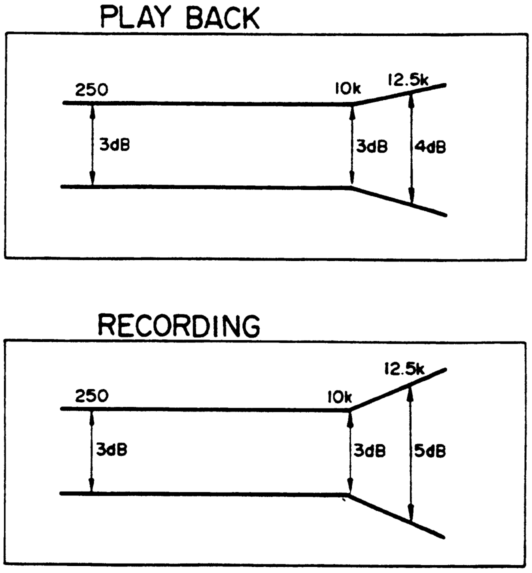

FWD azimuth adjustment screw
REV azimuth adjustment screw

Fig. 6.4 Head azimuth adjustment


PLAY BACK

RECORDING

Fig. 6.5 Frequency characteristics

• Head Adjustment of Deck I

- Deck I is provided with an automatic tape selector mechanism.
- Note: Do not switch over FWD and REV while the driver is inserted.

1. Head Azimuth Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (10 kHz, -20 dB).	Head azimuth adjustment screw (Fig. 6-4)	TP-L (Lch) TP-R (Rch)	Maximum playback signal level	Lock the screw with screw lock after completing adjustment.

2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (315 Hz, 0 dB).	VR453 (Lch) VR454 (Rch)	TP-L (Lch) TP-R (Rch)	−6.7 dBV	

3. Adjustment of frequency characteristics of recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by under-adjusting the bias.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Load the test tape STD-630 and set to record mode.	—	Area between Ⓒ and Ⓓ (REC Ass'y) shown in Fig. 6-1.	Confirm that the oscillation frequency is 105 kHz ±1 kHz.	If the adjustment value cannot be set within the sepcification, adjust the T1401 of the REC Ass'y.
2	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	−27.7 dBV	
3	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz and 10 kHz).	REC Ass'y VR1403 (Lch) VR1404 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the correction so that the playback level of 10 kHz remains 0 ±0.5 dB in relation to 315 Hz.	

4. Recording Level Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	−7.7 dBV	
2	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz and 10 kHz).	REC Ass'y VR1401 (Lch) VR1402 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the recording and correction so that the playback level of 315 Hz is −6.7 dBV.	

• Head Adjustment of Deck II

- Deck II is provided with an automatic tape selector mechanism.
- Note: Do not switch over FWD and REV while the driver is inserted.

1. Head Azimuth Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (10 kHz, -20 dB).	Head azimuth adjustment screw (Fig. 6-4)	TP-L (Lch) TP-R (Rch)	Maximum playback signal level	Lock the screw with screw lock after completing adjustment.

2. Playback Level Adjustment

- Be sure to make a careful adjustment, as the adjustment determines the DOLBY NR level for playback.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	PLAY	Playback the test tape STD-331B (315 Hz, 0 dB).	VR451 (Lch) VR452 (Rch)	TP-L (Lch) TP-R (Rch)	−6.7 dBV	

3. Adjustment of frequency characteristics of recording/playback

- As this procedure is for adjustment of the recording bias, be careful not to increase the distortion by under-adjusting the bias.

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Load the test tape STD-630 and set to record mode.	——	Area between Ⓐ and Ⓑ(AF Ass'y) shown in Fig. 6-1.	Confirm that the oscillation frequency is 105 kHz ±1 kHz.	If the adjustment value cannot be set within the sepcification, adjust the T581.
2	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	−27.7 dBV	
3	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz and 10 kHz).	VR411 (Lch) VR412 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the correction so that the playback level of 10 kHz remains 0 ±0.5 dB in relation to 315 Hz.	

4. Recording Level Adjustment

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	−7.7 dBV	
2	NORM	REC/ PLAY	Record and playback the test tape STD-630 (315 Hz).	VR521 (Lch) VR522 (Rch)	TP-L (Lch) TP-R (Rch)	Repeat the recording and correction so that the playback level of 315 Hz is −6.7 dBV.	

• Checking Procedure for Decks I and II

1. Action of ALC

Procedure	Tape selector	Mode	Input signal/test tape	Adjustment location	Measuring location	Cheking value	Remarks
1	NORM	REC	Apply a signal of 315 Hz to the CD input terminal and set the function to "CD".	Input signal level	TP-L (Lch) TP-R (Rch)	−7.7 dBV	
2				+10 dB against the input level of step 1.		−2.7 dBV ±2.5 dB	

6. RÉGLAGES

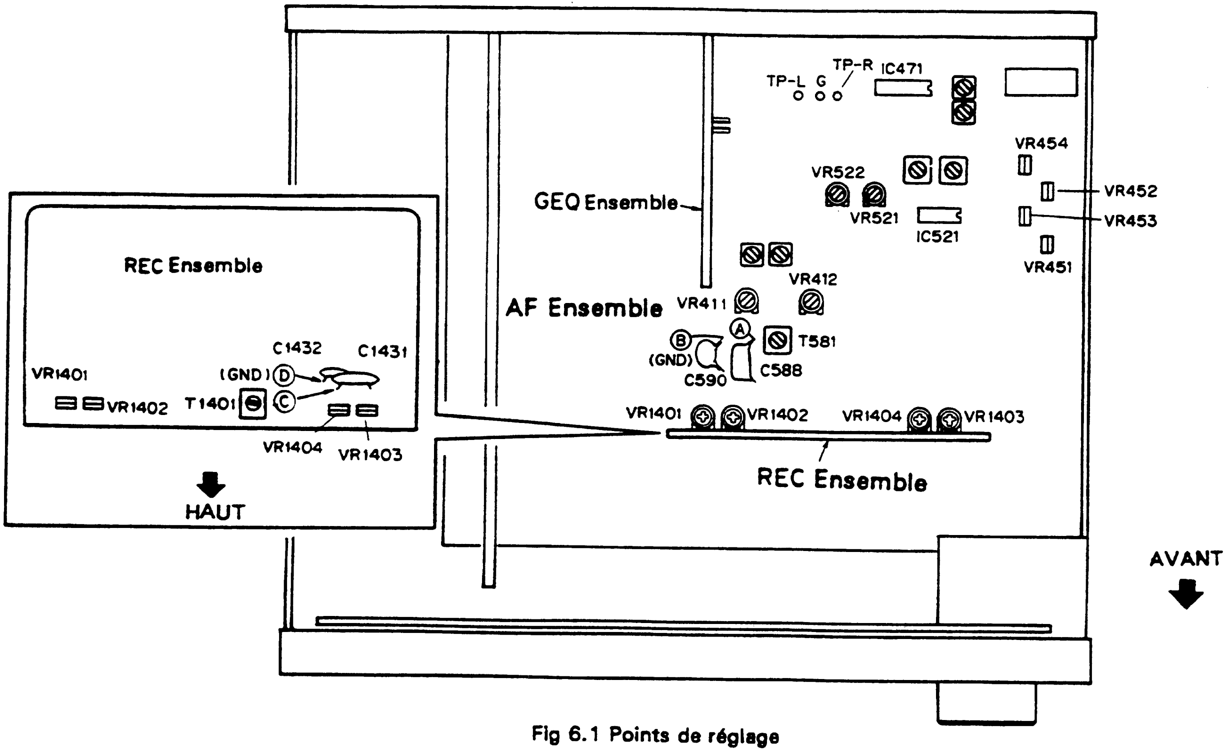

REC Ensemble
C1432
C1431
VR1401
(GND)Ⓓ
ⓒ
VR1402
T1401
VR1404
VR1403
HAUT
TP-L
G
TP-R
IC471
VR454
VR522
VR452
GEQ Ensemble
VR521
IC521
VR453
VR451
VR412
AF Ensemble
VR411
Ⓐ
Ⓑ
(GND)
T581
C590
C588
VR1401
VR1402
VR1404
VR1403
REC Ensemble
AVANT

Fig 6.1 Points de réglage

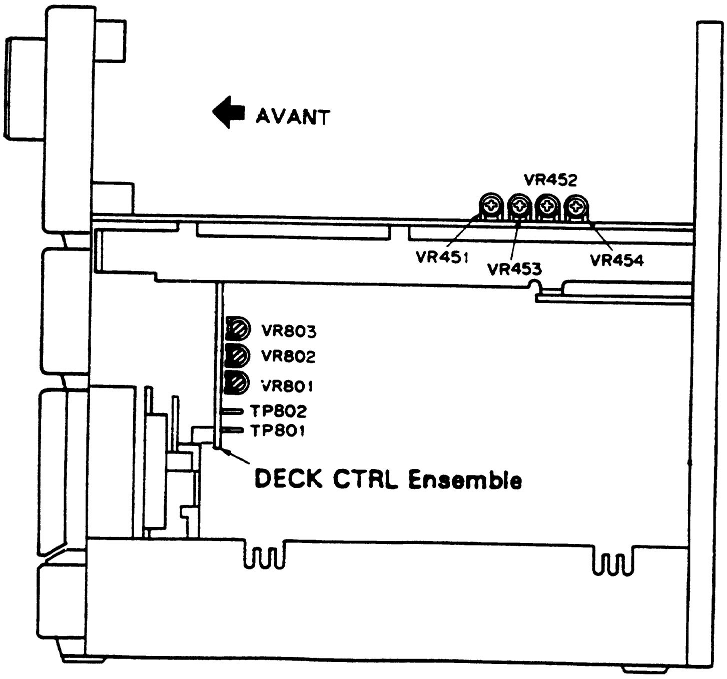

AVANT
VR452
VR451
VR453
VR454
VR803
VR802
VR801
TP802
TP801
DECK CTRL Ensemble

Fig 6.2 Points de réglage

- Les réglages et les mesures sont généralement faits dans l'ensemble AF, à moins de spécification contraire.
- Régler l'égaliseur graphique sur OFF, la commande d'équilibre en position centrale et le volume de mixage au microphone sur MIN.
- La fonction doit toujours être réglée sur "TAPE" à moins de spécification contraire.

Réglages mécaniques

- Bande d'étalonnage: STD-301 (3 kHz, 30 mn.)
- Réglage du mode de vitesse double: Court-circuiter TP801 et TP802 de l'ensemble de commande. Pour libérer le mode, ouvrir le court-circuit.

1. Réglage de la vitesse de bande

No.	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage		Emplacement du point de mesure	Valeur relevée	Dbservations
1	PLAY	Reproduire la bande STD-301 par 3 kHz.	Platine I	ENSEMBLE COMM. PLATINE VR801	TP-L (can. G)	Appuyer sur le contacteur PLAY et régler la fréquence sur 3.010 Hz ±10 Hz. Vérifier que le pleurage et scintillement est dans la limite de 0,2%.	
2	PLAY (Mode de vitesse double)			—		Appuyer sur le contacteur PLAY dans le mode de vitesse double et vérifier que la fréquence est 6.000 Hz ±1.000 Hz. Noter le chiffre.	Libérer le mode de vitesse double après le réglage.
3	PLAY (Mode de vitesse double)		Platine II	ENSEMBLE COMM. PLATINE VR803	TP-R (can. D)	Appuyer sur le contacteur PLAY dans le mode de vitesse double et régler la fréquence pour qu'elle soit dans la limite de ±30 Hz du chiffre noté dans l'étape No. 2.	Libérer le mode de vitesse double après le réglage.
4	PLAY			ENSEMBLE COMM. PLATINE VR802		Appuyer sur le contacteur PLAY et régler la fréquence sur 3.010 Hz ±10 Hz. Vérifier que le pleurage et scintillement est dans la limite de 0,2%.	

Réglages électriques

■ Vérifier les points suivants et effectuer les opérations suivantes avant procéder aux réglages électriques.

1. Le réglage de la vitesse de bande a été complété.
2. Nettoyer et démagnétiser la tête avec un démagnétiseur de tête.
3. Lors de la mesure, le niveau doit être de 0 dBV = 1 Vepp.
4. Utiliser la face A de la bande spécifiée pour le réglage. STD-331B: Pour le réglage du système de lecture.
   STD-630: Bande vierge NORMAL
   STD-620: Bande vierge CrO_2
   STD-610: Bande vierge METAL
5. Préparer les instruments de mesure suivants: Millivoltmètre CA, oscillateur à basse fréquence, éatténnateur et oscilloscope.
6. Régler les deux canaux L (gauche) et R (droit), sauf spécification contraire.
7. Régler les commutateurs DOLBY NR sur la position OFF, sauf spécification contraire.
8. Laisser chauffer l'appareil pendant plusieurs minutes avant le réglage. En particulier avant d'effectuer le réglage de la réponse en fréquence d'enregistrement et de lecture, laisser chauffer l'appareil pendant 3 à 5 minutes dans le mode d'enregistrement/lecture (REC/PLAY).
9. Toujours suivre l'ordre spécifié de la méthde réglage. Tout changement de l'ordre peut provoquer des résultats imparfaits.

Liste des réglages

Platine I

1. Azimut de la tête
2. Niveau de lecture
3. Réponse en fréquence d'enregistrement/lecture
4. Niveau d'enregistrement

Platine II

1. Azimut de la tête
2. Niveau de lecture
3. Réponse en fréquence d'enregistrement/lecture
4. Niveau d'enregistrement

Vérification des Platines I et II

1. Vérifier que le ALC fonctionne correctement.

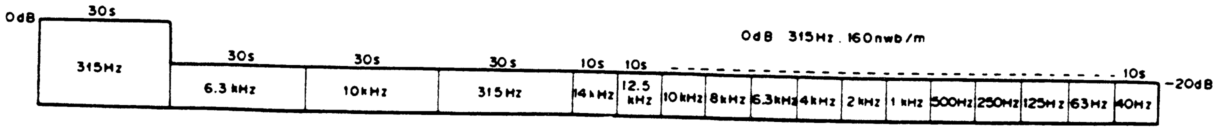

0dB
30s
315Hz
30s
6.3 kHz
30s
10kHz
30s
315Hz
10s
14kHz
10s
12.5 kHz
10kHz
8kHz
6.3kHz
4kHz
2kHz
1kHz
500Hz
250Hz
125Hz
63Hz
40Hz
10s
0dB 315Hz. 160nwb/m
-20dB

Fig. 6.3 Bande d'étalommge STD-331B

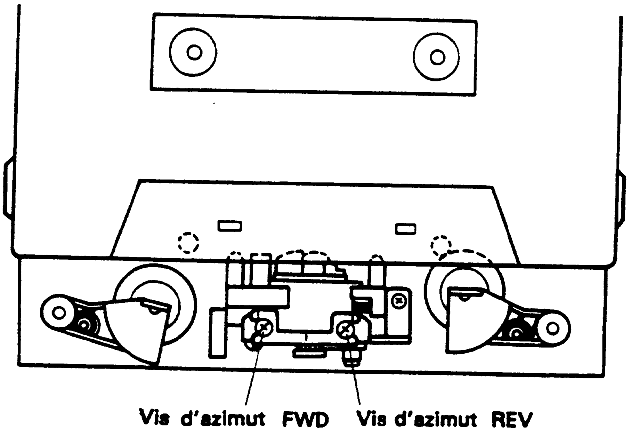

Vis d'azimut FWD
Vis d'azimut REV

Fig. 6.4 Réglage d'azimut de la tête

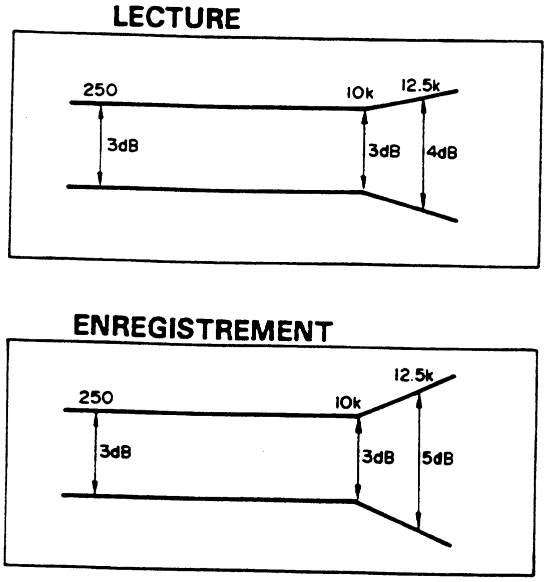


Fig. 6.5 Réponse en fréquence

• Réglage de la Platine I

- La Platine I est équipée d'un mécanisme de sélection automatique de bande.
- Remarque: Ne pas commuter entre le sens avant (FWD) et le sens arrière (REV) pendant que le tournevis est inséré.

1. Réglage d'azimut de la tête

Opération	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (10 kHz, -20 dB).	Vis de réglage d'ézimut de tête (Fig. 6-4)	TP-L (can. G) TP-R (can. D)	Niveau maximum du signal de lecture	Une fois le réglage terminé, bloquer la vis avec un frein de vis.

2. Réglage du niveau de lecture

- Toujours effectuer un réglage minutieux, car la valeur réglée sera le niveau Dolby pour la lecture.

Opération	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	PLAY	Reproduire la bande d'éealonnfe STD-331B (315 kHz, 0 dB)	VR453 (can. G) VR454 (can. D)	TP-L (can. G) TP-R (can. D)	−6.7 dBV	

3. Réglage de la réponsen fréquence d'enregistrement/lecture

- Cette opération réglant la polarisation d'enregistrement, faire attention de ne pas augmenter la distorsion par un réglage insuffisant de la polarisation.

Opération	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	REC	Charger la bande d'éealonnage STD-630 et régler dans le mode d'enregistrement.	—	Partie entre Ⓒ et Ⓓ (ensemble d'enregistrement (REC)) indiquée sur la Fig. 6-1.	Vérifier que la fréquence d'oscillation est de 105 kHz ±1 kHz.	Si la valeur de réglage ne peut pas être réglée dans les limites spécifiées, régler T1401 de l'ensemble REC.
2	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	−27 dBV	
3	NORM	REC/ PLAY	Enregistrer et reproduire la bande d'étalonnage STD-630 (315 Hz et 10 kHz).	Ensemble enr. (REC) VR1403 (can. G) VR1404 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter la correction de sorte que le niveau de lecture de 10 kHz soit de 0 ±0,5 dB en relation avec 315 Hz.	

4. Réglage du niveau d'enregistrement

Opération	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	−7.7 dBV	
2	NORM	REC/ PLAY	Enregistrer et reproduire la bande d'essai STD-630 (315 Hz et 10 kHz).	Ensemble enr. (REC) VR1401 (can. G) VR1402 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter l'enregistrement et la correction de sorte que le niveau de lecture de 315 Hz soit de −6,7 dBV.	

• Réglage de la Platine II

- La Platine II est équipée d'un mécanisme de sélection automatique de bande.
- Remarque: Ne pas commuter entre le sens avant (FWD) et le sens arrière (REV) pendant que le tournevis est inséré.

1. Réglage d'azimut de la tête

Opéra- tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	PLAY	Reproduire la bande d'étalonnage STD-331B (10 kHz, -20 dB).	Vis de réglage d'ézimut de tête (Fig. 6-4)	TP-L (can. G) TP-R (can. D)	Niveau maximum du signal de lecture	Une fois le réglage terminé, bloquer la vis avec un frein de vis.

2. Réglage du niveau de lecture

- Toujours effectuer un réglage minutieux, car la valeur réglée sera le niveau Dolby pour la lecture.

Opéra- tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	PLAY	Reproduire la bande d'éealonnfe STD-331B (315 Hz, 0 dB)	VR451 (can. G) VR452 (can. D)	TP-L (can. G) TP-R (can. D)	−6.7 dBV	

3. Réglage de la réponsen fréquence d'enregistrement/lecture

- Cette opération réglant la polarisation d'enregistrement, faire attention de ne pas augmenter la distorsion par un réglage insuffisant de la polarisation.

Opéra- tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	REC	Charger la bande d'éealonnage STD-630 et régler dans le mode d'enregistrement.	——	Partie entre Ⓐ et Ⓑ (ensemble d'enregistrement (AF) indiquée sur la Fig. 6-1.	Vérifier que la fréquence d'oscillation est de 105 kHz ±1 kHz.	Si la valeur de réglage ne peut pas être réglée dans les limites spécifiées, régler T581.
2	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	−27 dBV	
3	NORM	REC / PLAY	Enregistrer et reproduire la bande d'étalonnage STD-630 (315 Hz et 10 kHz).	VR411 (can. G) VR412 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter la correction de sorte que le niveau de lecture de 10 kHz soit de 0 ±0,5 dB en relation avec 315 Hz.	

4. R églage du niveau d'enregistrement

Opéra- tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	−7.7 dBV	
2	NORM	REC / PLAY	Enregistrer et reproduire la bande d'essai STD-630 (315 Hz).	VR1401 (can. G) VR1402 (can. D)	TP-L (can. G) TP-R (can. D)	Répéter l'enregistrement et la correction de sorte que le niveau de lecture de 315 Hz soit de −6,7 dBV.	

• Vérification de la Platines I et II

1. Action du ALC

Opéra- tion	Sélecteur de bande	Mode	Signal appiligeé / bande d'étalonnage	Emplacement du réglage	Emplacement du point de mesure	Valeur relevée	Obserrations
1	NORM	REC	Appliquer un signal de 315 Hz à la borne d'entrée CD et régler la fonction sur "CD".	Niveau du signal d'entrée	TP-L (can. G) TP-R (can. D)	−7.7 dBV	
2				+10 dB par rapport au niveau d'entrée de l'étape 1.		−2.7 dBV ±2.5 dB	

6. AJUSTE

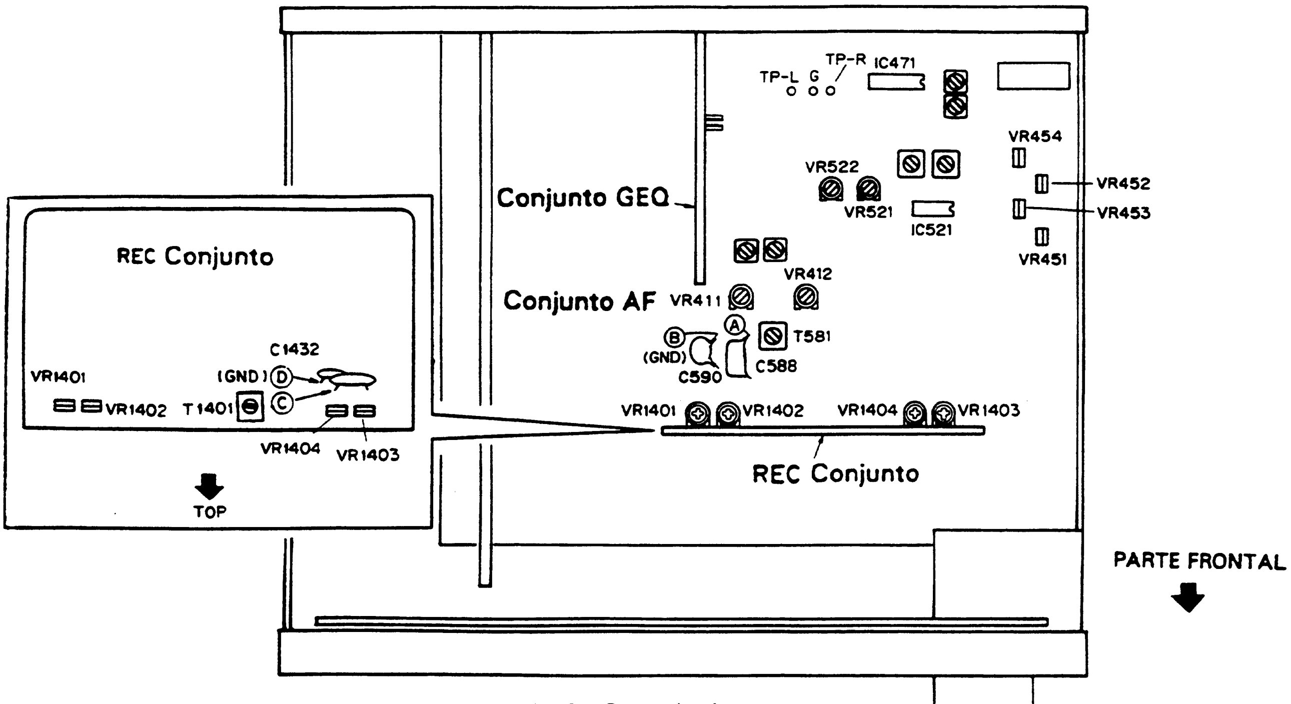

TP-R
IC471
TP-L
G
VR454
VR522
VR452
VR453
VR521
IC521
VR451
Conjunto GEQ
VR412
Conjunto AF
VR411
REC Conjunto
C1432
VR1401
(GND)
D
VR1402
T1401
C
VR1404
VR1403
TOP
A
B
(GND)
T581
C590
C588
VR1401
VR1402
VR1404
VR1403
REC Conjunto
PARTE FRONTAL

Fig 6.1 Punto de ajuste

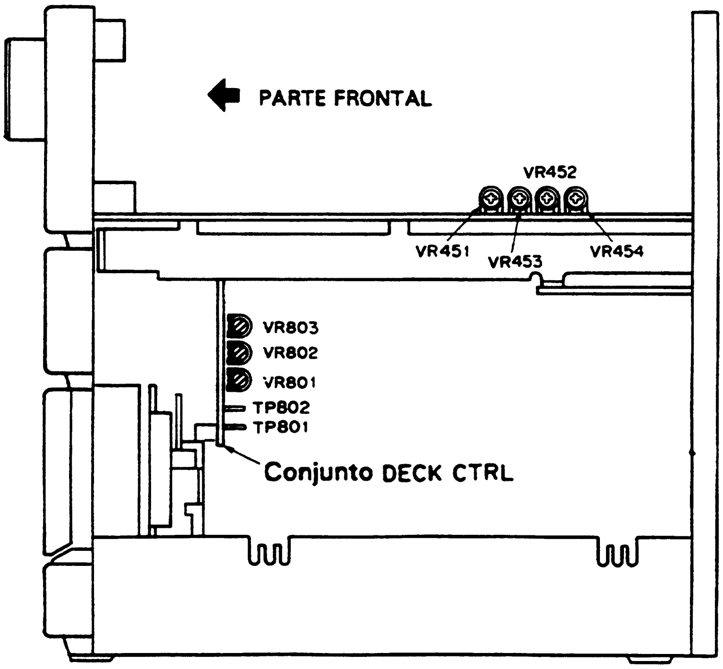

PARTE FRONTAL
VR452
VR451
VR453
VR454
VR803
VR802
VR801
TP802
TP801
Conjunto DECK CTRL

Fig 6.2 Punto de ajuste

- El ajuste y la medición se realizarán normalmente en el conjunto AF, a menos que se especifique otra cosa.
- Desactive (OFF) el ecualizador gráfico, ponga el control de equilibrio en el centro, y ajuste el volumen de mezcla de micrófono al mínimo (MIN).
- La función deberá estar ajustada siempre a "TAPE", a menos que se especifique otra cosa.

Ajuste del sistema mecánico

- Cinta de prueba: STD-301 (3 kHz, 30 min)
- Ajuste del modo de velocidad doble: Cortocircuite TP801 y TP802 del conjunto de control. Para desactivar el modo, abra el cortocircuito.

1. Ajuste de la velocidad de la cinta

Nº	Modo	Señal de enerada/ cinea de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	PLAY	Reproducción de la cinta STDy301 a 3 kHz	Sección I	VR801 del conjunto DECK CTRL	TP-L (canal izquierdo)	Presione PLAY SW y ajuste la frecuencia a 3010 Hz ±10 Hz. Cerciórese de que la fluctuación y el efecto de trémolo estén dentro de los límites del 0,2%.	
2	PLAY (Modo de velocidad doble)			—		Presione PLAY SW en el modo de velocidad doble y compruebe si la frecuencia es 6000 Hz ±1000 Hz. Anote el valor.	Después del ajuste, desactive el modo de velocidad doble.
3	PLAY (Modo de velocidad doble)		Sección II	VR803 del conjunto DECK CTRL	TP-R (canal derecho)	Presione PLAY SW en el modo de velocidad doble y ajuste la frecuencia de forma que quede a ±30 Hz del valor anotado en el paso N°2.	Después del ajuste, desactive el modo de velocidad doble.
4	PLAY			VR802 del conjunto DECK CTRL		Presione PLAY SW y ajuste la frecuencia a 3010 Hz ±10 Hz. Cerciórese de que la fluctuación y el efecto de trémolo estén dentro de los límites del 0,2%.	

Ajuste del sistema eléctrico

■Antes de ajustar el sistema eléctrico, compruebe y realice lo siguiente.

1. El ajuste de la velocidad de la cinta ha finalizado.
2. Limpie y desmagnetice la cabeza empleando un desmagnetizador de cabezas.
3. Cuando se mida, el nivel devel debe ser de 0 dBV = 1V rms.
4. Emplee el lado A de la cinta especificada para realizar el ajuste.
   STD-331B: Para ajuste del sistema de reproducción.
   STD-630: Cinta en blanco NORMAL
   STD-620: Cinta en blanco de CrO_2
   SRD-610: Cinta en blanco de METAL
5. Prepare los dispositivos de medición siguientes: Milivoltímetro de CA, oscilador de baja frecuencia, atenuador, y osciloscopio
6. Ajuste ambos canales, izquierdo y derecho, a menos que se especifique otra cosa.
7. Ponga los interruptores DOLBY NR en OFF, a menos que se especifique otra cosa.
8. Antes del ajuste, deje que la unidad se caliente durante varios minutos.
   Especialmente antes de ajustar las características de frecuencia de grabación y reproducción, deje que se caliente durante 3 a 5 minutos en el modo REC/PLAY.
9. Cerciórese de seguir el orden apropiado del procedimiento de ajuste. Cualquier cambio en el orden podría causar un resultado imperfecto.

Lista de adjuste

Sección I

1. Azimut de la cabeza
2. Nivel de reproducción
3. Características de frecuencia de grabación/reproducción
4. Nivel de grabación

Sección II

1. Azimut de la cabeza
2. Nivel de reproducción
3. Características de frecuencia de grabación/reproducción
4. Nivel de grabación

Comprobación de las secciones I y II

1. Cerciórese de que ALC esté funcionando adecuadamente.

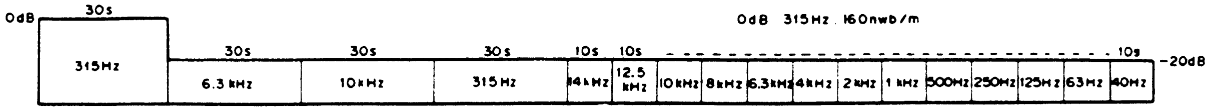

0dB
30s
315Hz
0dB 315Hz 160nwb/m
30s
6.3 kHz
30s
10kHz
30s
315Hz
10s
14kHz
10s
12.5 kHz
10kHz
8kHz
6.3kHz
4kHz
2kHz
1 kHz
500Hz
250Hz
125Hz
63Hz
40Hz
10s
-20dB

Fig. 6.3 Cinta de prueba STD-331B

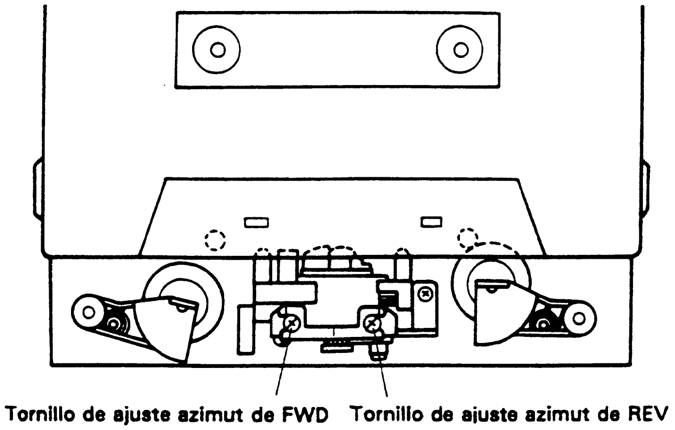

Tornillo de ajuste azimut de FWD
Tornillo de ajuste azimut de REV

Fig. 6.4 Ajuste del azimut de la cabeza

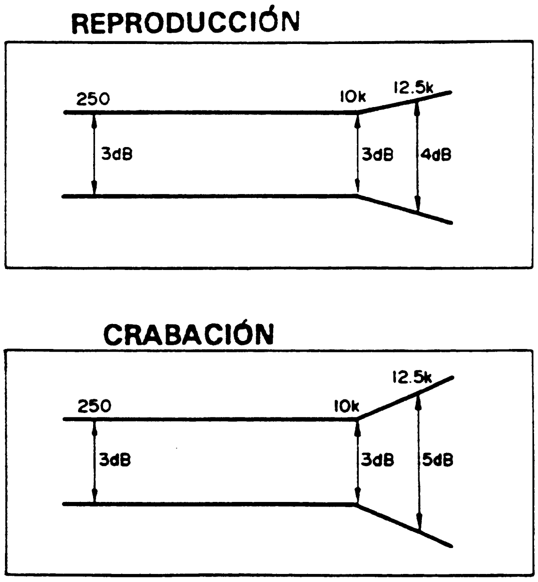


Fig. 6.5 Características de frecuencia

• Ajuste de la sección I

- La sección I dispone de un mecanismo selector automático de cinta.
- Nota: No cambie a FWD ni a REV mientras el destornillador esté insertado.

1. Ajuste azimutal de la cabeza

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	[illegible]aciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (10 kHz, -20 dB).	Tornillo de ajuste azimutal de la cabeza (Fig. 6-4)	TP-L (canal izquierdo) TP-R (canal derecho)	Nivel máximo de la señal de reproducción	Blogue [illegible] nillo con bloquea [illegible] tornillos después [illegible] r ter-minado e[illegible]

2. Ajuste del nivel de reproducción

- Tenga mucho cuidado durante el ajuste, ya que el valor ajustado será el nivel Dolby fijado para reproc[illegible]n.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observ[illegible]
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (315 Hz, 0 dB).	VR453 (canal izquierdo) VR454 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	−6.7 dBV	

3. Ajuste de las características de frecuencia de grabación/reproducción

- Como este procedimiento es para el ajuste de la polarización de grabación, tenga cuidado de no aumentar valor de distorsión mediante el subajuste de la polarización.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Cargue la cinta de prueba STD-630 y establezca el modo de grabación.	—	Área entre Ⓒ y Ⓓ (conjunto de REC) mostrada en la Fig. 6-1.	Confirme que la frecuencia de oscilación sea de 105 kHz ±1 kHz.	Si el valor de ajuste no puede establecerse dentro de la especificación, ajuste T1401 del conjunto de REC.
2	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	−27.7 dBV	
3	NORM	REC / PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz y 10 kHz).	Conjunto REC VR1403 (canal izquierdo) VR1404 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Repita la corrección de forma que el nivel de reproducción de 10 kHz sea de 0 ±0,5 dB en relación con 315 Hz.	

4. Ajuste del nivel de grabación

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	−7.7 dBV	
2	NORM	REC / PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz y 10 kHz).	Conjunto REC VR1401 (canal izquierdo) VR1402 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Grabe y reproduzca la cinta de prueba de forma que el nivel de reproducción de 315 Hz sea de −6,7 dBV.	

• Ajuste de la sección II

- La sección II dispone de un mecanismo selector automático de cinta.
- Nota: No cambie a FWD ni a REV mientras el destornillador esté insertado.

1. Ajuste azimutal de la cabeza

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (10 kHz, -20 dB).	Tornillo de ajuste azimutal de la cabeza (Fig. 6-4)	TP-L (canal izquierdo) TP-R (canal derecho)	Nivel máximo de la señal de reproducción	Bloguee el tornillo con bloqueador de tornillos después de haber terminado el ajuste.

2. Ajuste del nivel de reproducción

- Tenga mucho cuidado durante el ajuste, ya que el valor ajustado será el nivel Dolby fijado para reproducción.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	PLAY	Ponga la cinta de prueba STD-331B en reproducción (315 Hz, 0 dB).	VR451 (canal izquierdo) VR452 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	−6.7 dBV	

3. Ajuste de las características de frecuencia de grabación/reproducción

- Como este procedimiento es para el ajuste de la polarización de grabación, tenga cuidado de no aumentar el valor de distorsión mediante el subajuste de la polarización.

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Cargue la cinta de prueba STD-630 y establezca el modo de grabación.	—	Área entre Ⓐ y Ⓑ (conjunto de AF) mostrada en la Fig. 6-1.	Confirme que la frecuencia de oscilación sea de 105 kHz ±1 kHz.	Si el valor de ajuste no puede establecerse dentro de la especificación, ajuste T581.
2	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	−27.7 dBV	
3	NORM	REC/ PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz y 10 kHz).	VR411 (canal izquierdo) VR412 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Repita la corrección de forma que el nivel de reproducción de 10 kHz sea de 0 ±0,5 dB en relación con 315 Hz.	

4. Ajuste del nivel de grabación

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	−7.7 dBV	
2	NORM	REC/ PLAY	Grabe y reproduzca la cinta de prueba STD-630 (315 Hz).	VR521 (canal izquierdo) VR522 (canal derecho)	TP-L (canal izquierdo) TP-R (canal derecho)	Grabe y reproduzca la cinta de prueba de forma que el nivel de reproducción de 315 Hz sea de −6,7 dBV.	

• Procedimiento de comprobación para las secciones I y II

1. Acción del ALC

Procedimiento	Selector de cinta	Modo	Señal de entrada / cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	NORM	REC	Aplique una señal de 315 Hz al terminal de entrada CD y ajuste la función a "CD".	Nivel de la señal de entrada	TP-L (canal izquierdo) TP-R (canal derecho)	−7.7 dBV	
2				+10 dB contra el nivel de entrada del paso 1.		−2.7 dBV ±2.5 dB	

7. IC INFORMATION

●Terminal function of PD3133

No.	Terminal name	I/O	Function		Active
1 ≀ 5	S7 ≀ S11	O	Segment 7 ≀ Segment 11	Outputs segment control signals of the FL indicator.	H
6 ≀ 12	G1 ≀ G7	O	Grid 1 ≀ Grid 7	Outputs grid control signals of the FL indicator (Rch).	H
13 ≀ 17	G1 ≀ G5	O	Grid 1 ≀ Grid 7	Outputs grid control signals of the FL indicator (Lch).	H
18		I	Not used (pull–down with the resistor).		—
19		—	−27V power supply input for FL indicator control. If these −27V are not supplied when AC voltage of the filament is applied, the FL indicator will go off.		–
20 ≀ 22	6G ≀ 8G	O	Grid 6 ≀ Grid 8	Outputs grid control signals of the FL indicator.	H
23	DIRECT	I	Direct detection When the DIRECT switch of the AMP is pressed and this terminal becomes "H" by Pin59 of the IC801(PDE029), turns the characteristics of the graphic EQ to flat.		H
24	SR	I	SR remote control signal input.		L
25	GE DATA	O	DATA	Outputs control signal of the IC603 (LC7522).	H/L
26	GE CLOCK	O	CLOCK		
27	POWER	I	Power supply detection. When the power is turned on and "H" is input to this terminal from Pin20 of the IC801(PDE029), it becomes operation mode. If "H" is not input (when "L"), it becomes backup mode.		H
28	A	O	A(Pin11)	Outputs control signal of the IC726 (TC4041BP).	H/L
29	B	O	B(Pin10)		
30	C	O	C(Pin9)		
31	SPA IN	I	Inputs the comparison result of the level comparator IC725 (NJM4558DXP). (decides whether Pin1 of the IC725 is "H" or "L"). (See Note1 on P.76).		H/L
32	VCC	—	+5V Power supply.		–

No.	Terminal name	I/O	Function		Active
33	A/D0(LSB)	0	LSB ~ MSB	Outputs voltage for comparison of the comparator of the D/A converter (See Note1 on P.76).	H/L
34	A/D1				
35	A/D2				
36	A/D3				
37	A/D4(MSB)				
38	BPF RESET	0	RESET of band-pass filter output for Spectlum Analyzer. After measuring the level of the Lch, reset the output of each band-pass filter to level zero, then proceed to measure the level of the Rch.		H
39	CTRL Rch	0	Selects input of the band-pass filter for Spectral Analyzer (See Note1 on P.76).	Lch	L
40	CTRL Lch	0		Rch	L
41	KO1	0	Outputs key scan signal.		L
42	KO0				
43 ~ 46	KI3 ~ KI0	I	Inputs key scan signal.		L
47	RESET	I	Inputs RESET signal.		H
48	OSC2	0	4.19MHz ceramic oscillator connection terminal.		—
49	OSC1	I			—
50	GND	-	Grounding.		—
51	CL1	I	Pull-up to Vcc as it is not used.		—
52	CL2	0	Not used.		—
53	$\overline{\text{TEST}}$	I	Pull-up to Vcc.		—
54 ~ 58	KO2 ~ KO6	0	Outputs key scan signal.		L
59 ~ 64	S1 ~ S6	0	Outputs segment control signal of the FL indicator.		H

Note 1: Spectral Analyser Indication Unit

Spectral Analyser indication unit is as shown in Fig. 7−1.

The microcomputer IC771 (PD3133) and a comparator IC725 (NJM4558DXP) measure the Lch and Rch or respective band levels and control the level indication.

Thus, the channel level is measured one by one for every one band. When all bands of Lch and Rch are measured, the results will be displayed all at once.

The measurement is made by repeating B.P.F. output RESET, Lch 15 kHz to 60 Hz, B.P.F.output RESET, Rch 15 kHz to 60 Hz, level indication, B.P.F. output RESET, Lch. . . . .

Respective band levels of the Spectral Analyser are measured as follows: outputs reference voltage (V_{Ref})for five times; decides whether the output from the comparator is "H" or "L"; specifies the fifth output of the reference voltage as the measuring level and decides in which point of 11 steps the level is positioned; displays the level.

Thus,the difference of measuring times for low level measurement and high level measurement can be eliminated to allow level measurement of the respective band by unit time.

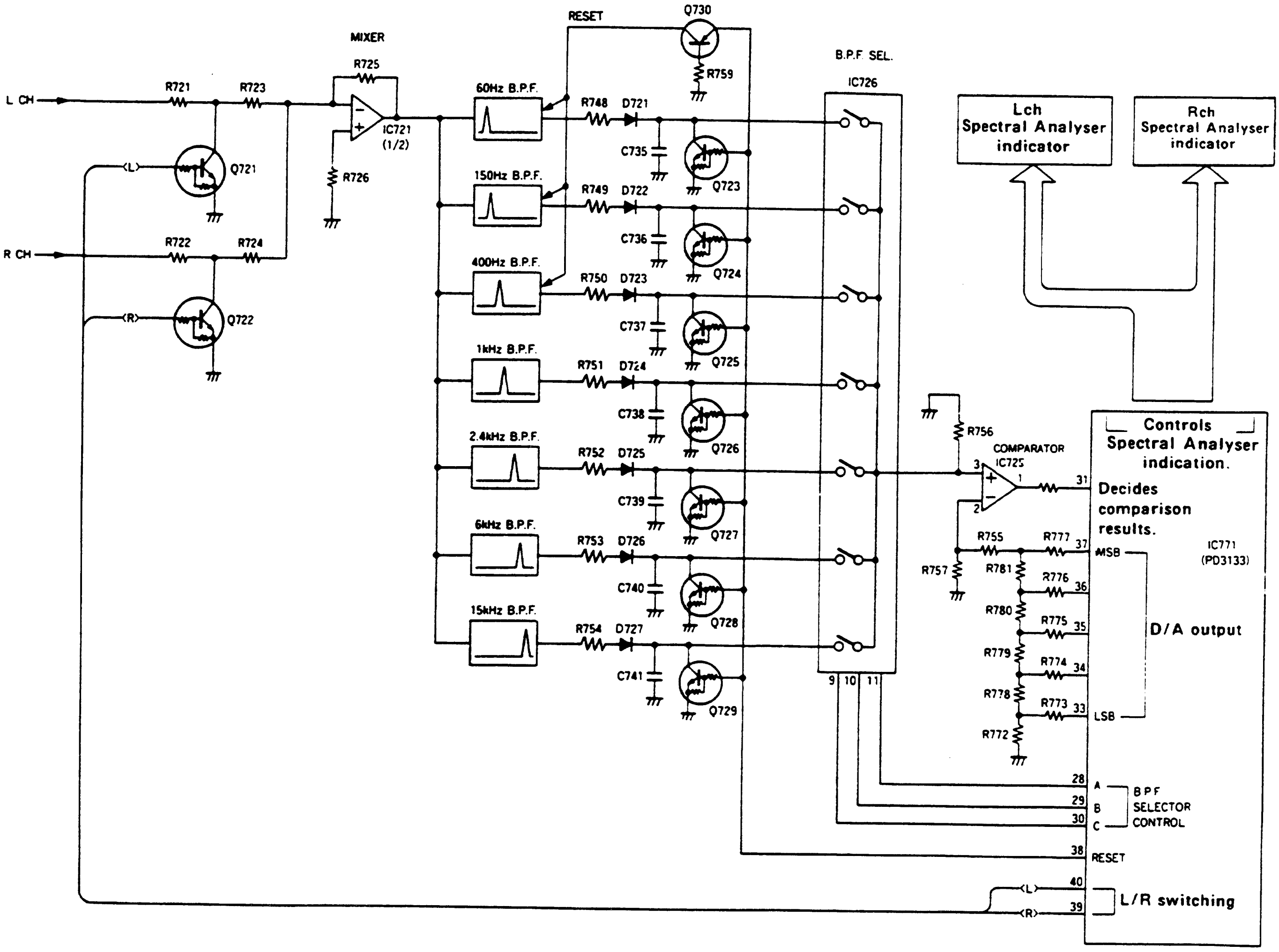

L CH
R CH
R721
R723
R722
R724
Q721
Q722
<L>
<R>
MIXER
R725
IC721 (1/2)
R726
RESET
Q730
R759
60Hz B.P.F.
150Hz B.P.F.
400Hz B.P.F.
1kHz B.P.F.
2.4kHz B.P.F.
6kHz B.P.F.
15kHz B.P.F.
R748 D721
R749 D722
R750 D723
R751 D724
R752 D725
R753 D726
R754 D727
C735
C736
C737
C738
C739
C740
C741
Q723
Q724
Q725
Q726
Q727
Q728
Q729
B.P.F. SEL.
IC726
9 10 11
Lch Spectral Analyser indicator
Rch Spectral Analyser indicator
R756
COMPARATOR IC725
R757
R755
R777
R781
R776
R780
R775
R779
R774
R778
R773
R772
Controls Spectral Analyser indication.
Decides comparison results.
IC771 (PD3133)
MSB
LSB
D/A output
31
37
36
35
34
33
28 A
29 B
30 C
BPF SELECTOR CONTROL
38 RESET
40 <L>
39 <R>
L/R switching

Fig.7−1 Block diagram of Spectral Analyser indication unit

Level measurement works, mentioned as below. 5 bit DATA "10000" (1/2 of maximum value, See Fig. 7–2.) puts out first from the D/A output of the Pins 33 to 37 of the IC771 (PD3133). The second DATA to be output is decided by "H" or "L" of the comparator output at this point. If the output is "H", the reference voltage (V_{Ref}) is lower. "11000", the intermediate value of "10000" (the first output) and the maximum value "11111", will be the second output. The third DATA to be output is decided by "H" or "L" of the comparator output at this point. If the output is "L", the reference voltage (V_{Ref}) is higher.

"10100", the intermediate value of "11000" (the second output) and "10000" (the first output), will be output third.

The fourth DATA to be output is decided by "H" and "L" of the comparator output at this point.

If the output is "L", the reference voltage (V_{Ref}) is still higher. "10010", the intermediate value of "10100" (the third output) and "10000" (the first output), will be output fourth.

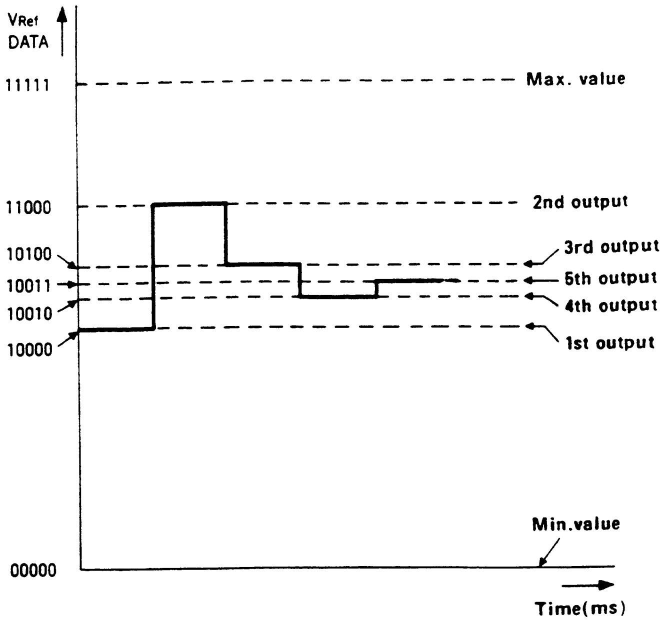


Fig.7-2 Level measurement action

The fifth DATA to be output is decided by "H" and "L" of the comparator output at this point. If the output is "H", the reference voltage (V_{Ref}) is still lower. "10011", the intermediate value of "10010" (the fourth output) and "10100" (the third output), will be output fifth. The fifth DATA value "10011" is specified as the the result of measurement. Finally, how many points of Spectral Analyser should by lit up is decided from this DATA "10011". All bands of Lch and Rch are displayed all at once after measurement.

●Terminal Function of PDE029–C(DECK control microcomputer)

Note:I:CMOS input,N:Nch open drain output,
O:CMOS output,UN:Nch open drain output with pull–up MOS transister

No.	Terminal name	I/O	Function	Active
1	S1(DATA1)	N	Used for sending/receiving of DATA with microcomputer of TUNER.	H/L
2	S0(DATA2)	O		H/L
3	$\overline{\text{SC}}$	O		H/L
4	SREQ	O	Not used.	—
5	FADER (LED)	O	Light up LED during FADER REC mode.	H
6	1BIAS	O	Not used.	—
7	2BIAS	O	Oscillates BIAS only during REC mechanism 2.	H
8		I	Not used.	—
9	$\overline{\text{COPY}}$	UN	According to the various statuses in the table below, the control of the IC471 (for DOLBY NR) and for the switching inputs of the REC AMP are depicted as follows.	H/L
10	Dolby $\overline{\text{P}}$/R	UN	**DOLBY NR IC:IC471,HA12136** **REC AMP Input Selector:IC521, TC4066BP**	H/L
11	PB$\overline{1}$/2	UN	Control switching of playback mechanism (L:mechanism 1).	H/L
12	2.REC MUTE	UN	Sets to L only while mechanism 2 is in REC mode.	H
13	MS. PULSE	N	MS pulse detection (H:music is searched).	H/L
14	1.REC MUTE	UN	Not used.	—
15	FADER	UN	Turns Q601 ON to discharge the time constant deciding capacitor C642 when controlling rise time of the power supply of the BIAS oscillation circuit. If the FADER switch is turned on, the unit enters REC PAUSE mode. When the PLAY(FWD and REV) button is pressed,at this time, the terminal will be switched from "H"to"L". In FADER REC during ASES operation, the terminal will be "H"for 100ms when the unit starts up.	H
16	PB. MUTE	UN	Turns OFF only during DECK playback mode.	H
17	1.PULSE	N	Detects hall device pulse of mechanism 1.	H/L
18	2.PULSE	N	Detects hall device pulse of mechanism 2.	H/L
19	HI/$\overline{\text{NORM}}$	N	Controls TAPE SPEED(H:double speed).	H/L
20	POW. RY	O	Becomes "H"when POWER is turned ON.	H
21	1.$\overline{\text{MOTOR}}$	N	Controls the motor of mechanism 1. (L:MOTOR rotates).	L
22	$\overline{\text{P.ASES}}$	N	Not used.	—

FUNCTION	REC MODE	$\overline{\text{COPY}}$ (Pin 9)	DOLBY $\overline{\text{P}}$/R (Pin 10)
TAPE	REC not operated.	L	L
	REC is operating.	H	L
Except TAPE	REC not operated.	L	L
	REC is operating.	L	H
	COPY is operating (both normal speed and double speed).	L	L

No:	Terminal name	I/O	Function	Active
23	1. ●	N	Not used.	—
24	2. MOTOR	N	Controls the motor of mechanism 2. (L : MOTOR rotates) .	L
25	DIGI ON/OFF	O	Not used.	—
26	SP.RY	O	Controls SP RELAY(RY351) Operates MUTE for 5seconds after POWER is turned ON. Turns SP RELAY OFF immediately after POWER is turned OFF.	L
27	V-UP	O	Controls TA7291 and UP/DOWN of the MOTOR VOLUME. V-UP (Pin 27) V-DOWN (Pin 28) UP H L DOWN L H	H
28	V-DOWN	O		H
29	L-MUTE	O	Operates MUTE for 0.5seconds when FUNCTION is switched and SURROUND is ON/OFF and DIRECT is ON/OFF. When POWER is ON, the SP RELAY is turned ON, and it takes 0.3seconds until the output signal of VOLUME(VR391) functions for muting.	H
30	TEST	—	Not used (GND).	—
31	Vss	—	GND.	—
32	OSC1	—	Connects 4.19MHz ceramic resonator.	—
33	OSC2	—		—
34	RES	—	RESET terminal.	L
35	A	O	Transfer DATA of 3bit to the 74LS42P and uses as KEYSCAN OUT K00-K06.	L/H
36	B	O		L/H
37	C	O		L/H
38	1. ▶ (LED)	N	Controls the FWD PLAY LED of mechanism 1.	L
39	1. ◀ (LED)	N	Controls the REV PLAY LED of mechanism 1.	L
40	2. ▶ (LED)	N	Controls the FWD PLAY LED of mechanism 2.	L
41	2. ◀ (LED)	N	Controls the REV PLAY LED of mechanism 2.	L
42	2. ● (LED)	N	Control the REC LED of mechanism 2.	L
43	ASES(LED)	N	Controls the ASES.	L
44	R.REC(LED)	N	Not used.	—
45	R.ASES (LED)	N	Not used.	—
46	SOL2B	O	Controls the solenoid for FF/REW of mechanism 2.	H
47	SOL2A	O	Controls the solenoid for PLAY of mechanism 2.	H
48	SOL1B	O	Controls the solenoid for FF/REW of mechanism 1.	H
49	SOL1A	O	Controls the solenoid for PLAY of mechanism 1.	H

No.	Terminal name	I/O	Function	Active
50 ~ 55	K10 ~ K15	I	KEY matrix input.	H/L
56	K16	N		
57	K17			
58	SURROUND	UN	Controls SURROUND ON/OFF.	H
59	DIRECT	UN	Controls DIRECT ON/OFF.	H
60	F-MUTE	UN	Operates MUTE for 0.5seconds when FUNCTION is switched. When POWER is ON after SP RELAY(RY351) is activated (ON), MUTE is operated for 0.3seconds.	H
61	INH	UN	Switches FUNCTION.	H/L
62	B	UN		H/L
63	A	UN		H/L
64	VDD	–	+5V	–

8. FOR HE AND SD TYPES

8.1 CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

The DC-Z92/HE and SD types are the same as the DC-Z92/HB type with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		DC-Z92/ HB type	DC-Z92/ HE type	DC-Z92/ SD type	
⚠	POWER SUPPLY assembly	AWZ2241	AWZ2239	AWZ2242	
	CONNECTOR assembly	Non supply	Non supply	....	
⚠	FU2001 Fuse (T2A/250V)	AEK-511	AEK-107	AEK-400	
⚠	FU2002 Fuse (T1.6A/250V)	....	....	AEK-405	
⚠	FU2003 Fuse (T1.6A/250V)	AEK-510	AEK-405	AEK-406	
⚠	FU2004,FU2005 Fuse (T1.25A/250V)	AEK-509	AEK-018	AEK018	
⚠	S2001 Line voltage selector switch (AC110V,120V~127V,220V,240V)	....	....	AKX1007	
⚠	S2002 Line voltage selector switch (AC110V,120V~127V,220V,240V)	....	....	AKX-507	
⚠	AC Power cord	ADG-063	ADG1021	ADG1015	
⚠	T2001 Power transformer (AC220V,240V)	ATS1184	ATS1184	....	
⚠	T2001 Power transformer (AC110V,120V~127V,220V,240V)	....	....	ATS1185	
	Caution card	ARM1003	....	....	
	Operating instructions (English)	ARB1156	....	....	
	Operating instructions (English, German, French, Italian)	....	ARE1117	....	
	Operating instructions (Dutch, Swedish, Spanish, Portguese)	....	ARC1135	....	
	Operating instructions (Spanish)	....	....	ARC1138	

8.2 FOR HE TYPE

POWER SUPPLY assembly (AWZ2239)

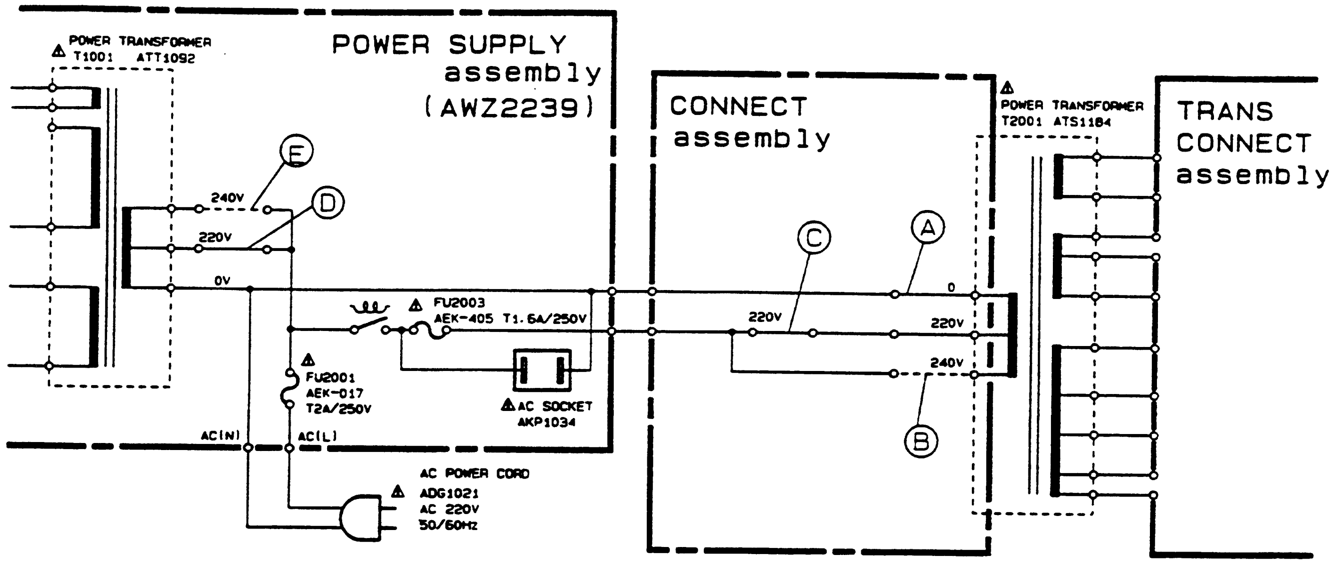
The POWER SUPPLY assembly (AWZ2239:HE type) is the same as the POWER SUPPLY assembly (AWZ2241:HB type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		AWZ2241:HB type	AWZ2239:HE type	
⚠	AC socket (OUTLET)	AKP1035	AKP1034	

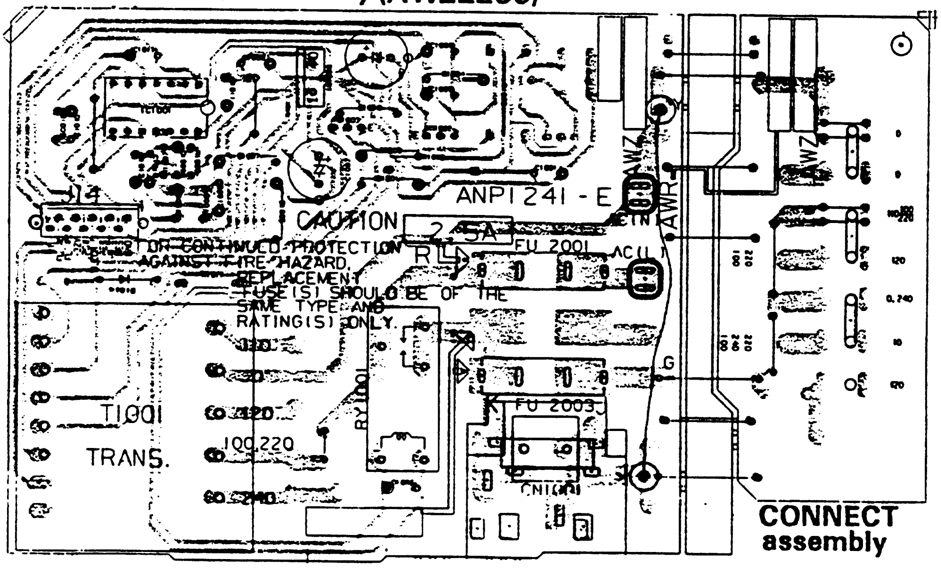
CONNECT assembly

The difference in parts between the CONNECT assemblies HB type and HE type is only the jumper wire.

SCHEMATIC AND P.C.BOARDS DIAGRAM


⚠ POWER TRANSFORMER
T1001 ATT1092
POWER SUPPLY
assembly
(AWZ2239)
E
D
240V
220V
0V
⚠ FU2003
AEK-405 T1.6A/250V
⚠ FU2001
AEK-017
T2A/250V
⚠ AC SOCKET
AKP1034
AC(N)
AC(L)
AC POWER CORD
⚠ ADG1021
AC 220V
50/60Hz
CONNECT
assembly
C
A
B
0
220V
220V
240V
⚠ POWER TRANSFORMER
T2001 ATS1184
TRANS
CONNECT
assembly

POWER SUPPLY assembly (AWZ2239)


ANP1241-E
CAUTION
2.5A
FOR CONTINUED PROTECTION
AGAINST FIRE HAZARD,
REPLACEMENT
FUSE(S) SHOULD BE OF THE
SAME TYPE AND
RATING(S) ONLY.
FU 2001
AC(L)
FU 2003
T1001
TRANS.
RY1001
CN1001
AWZ
AWR
AWZ
G
CONNECT
assembly

8.3 FOR SD TYPE

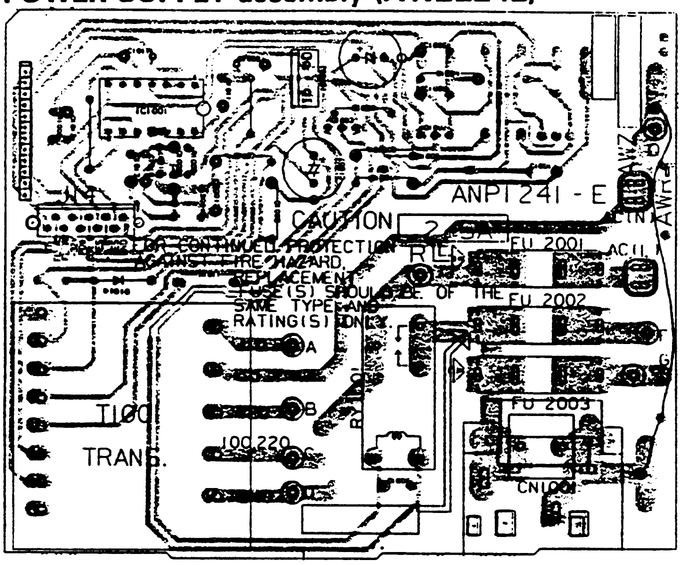
POWER SUPPLY assembly (AWZ2242)

The POWER SUPPLY assembly (AWZ2242:SD type) is the same as the POWER SUPPLY assembly (AWZ2241:HB type) with the exception of the following sections.

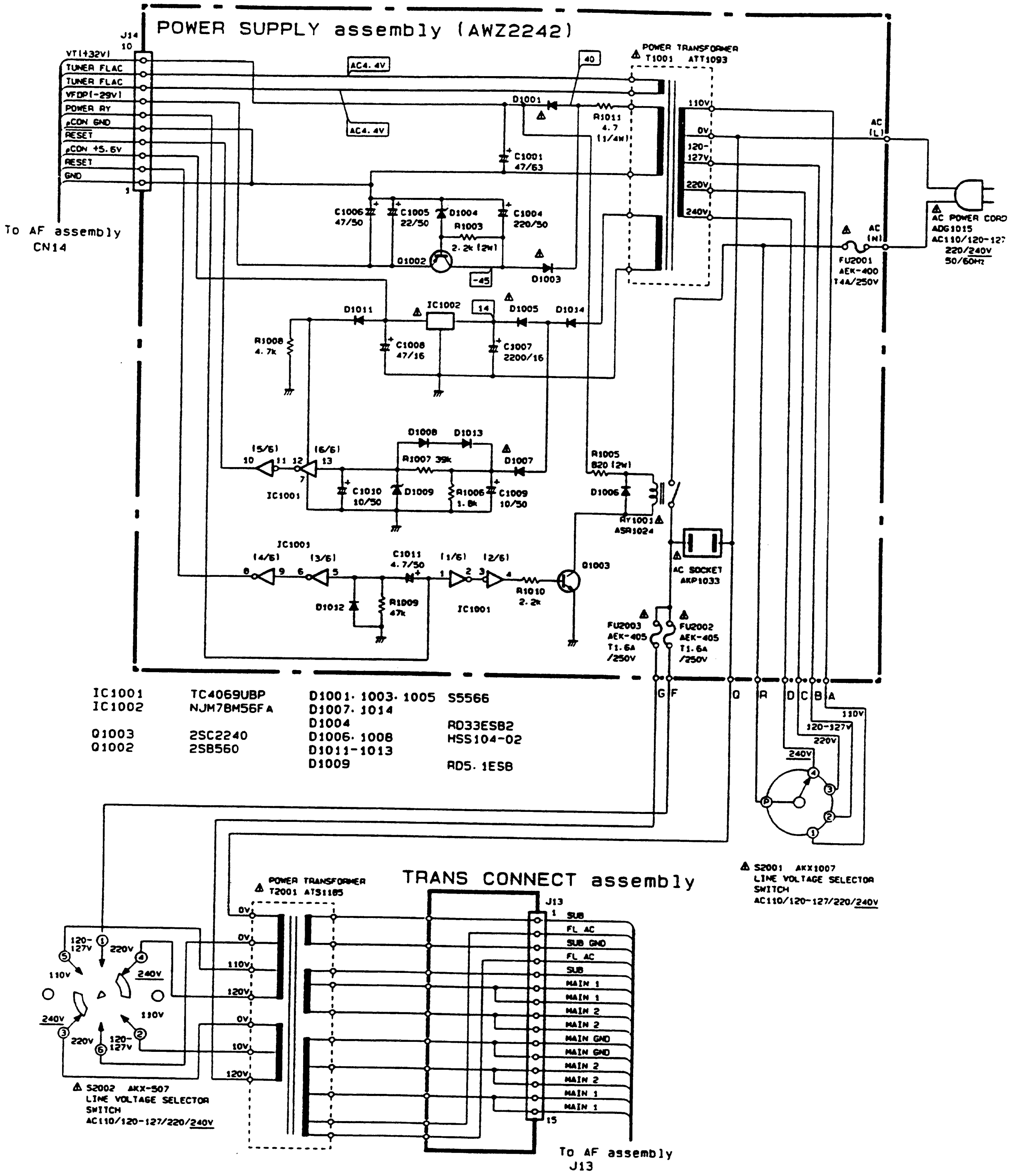
Mark	Symbol & Description	Part No.		Remarks
		AWZ2241:HB type	AWZ2242:SD type	
⚠	T1001 Power transformer	ATT1092	....	
⚠	(AC 220V, 240V)			
	T1001 Power transformer	....	ATT1093	
⚠	(AC110V, 120V~127V, 220V, 240V)			
	AC socket (OUTLET)	AKP1035	AKP1033	

P.C.BOARD DIAGRAM

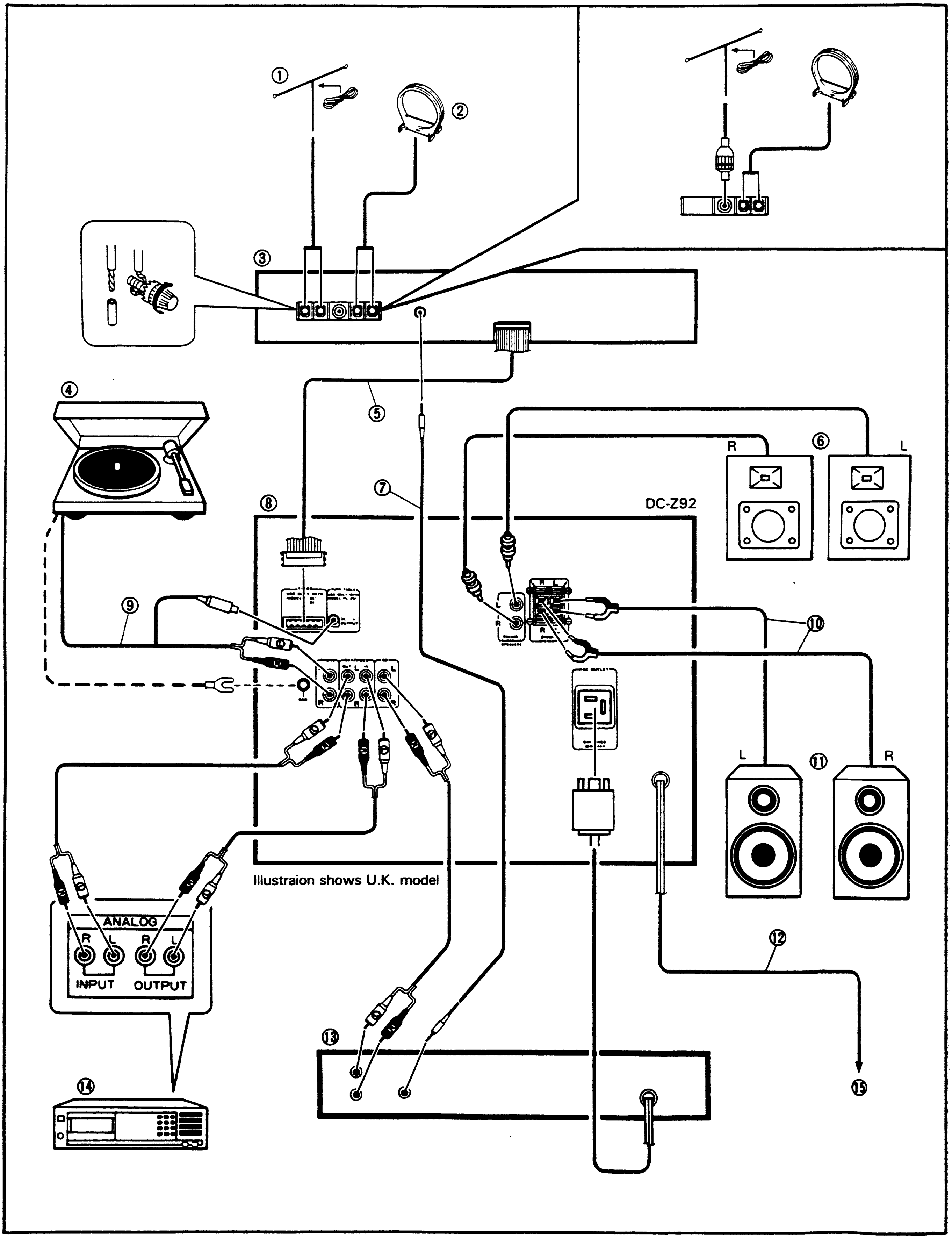
POWER SUPPLY assembly (AWZ2242)


ANP1241 - E
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSE(S) SHOULD BE OF THE SAME TYPE AND RATING(S) ONLY.
2.5A
FU 2001
FU 2002
FU 2003
AC IN
T1001
TRANS.
100 220
A
B
CN1001
AWZ

SCHEMATIC DIAGRAM


POWER SUPPLY assembly (AWZ2242)
J14
VT(+32V)
TUNER FLAG
TUNER FLAG
VFDP(-29V)
POWER RY
μCON GND
RESET
μCON +5.6V
RESET
GND
To AF assembly
CN14
POWER TRANSFORMER
T1001 ATT1093
AC4.4V
AC4.4V
D1001
R1011 4.7 (1/4W)
C1001 47/63
C1006 47/50
C1005 22/50
D1004
R1003 2.2k (2W)
C1004 220/50
Q1002
D1003
-45
40
14
IC1002
D1011
D1005
D1014
R1008 4.7k
C1008 47/16
C1007 2200/16
D1008
D1013
R1007 39k
D1007
IC1001
C1010 10/50
D1009
R1006 1.8k
C1009 10/50
R1005 820 (2W)
D1006
RY1001 ASR1024
C1011 4.7/50
D1012
R1009 47k
R1010 2.2k
Q1003
AC SOCKET AKP1033
FU2003 AEK-405 T1.6A /250V
FU2002 AEK-405 T1.6A /250V
AC (L)
AC (N)
FU2001 AEK-400 T4A/250V
AC POWER CORD ADG1015 AC110/120-127 220/240V 50/60Hz
110V
0V
120-127V
220V
240V
G F Q R D C B A
IC1001 TC4069UBP
IC1002 NJM78M56FA
Q1003 2SC2240
Q1002 2SB560
D1001・1003・1005 S5566
D1007・1014
D1004 RD33ESB2
D1006・1008 HSS104-02
D1011-1013
D1009 RD5.1ESB
S2001 AKX1007 LINE VOLTAGE SELECTOR SWITCH AC110/120-127/220/240V
TRANS CONNECT assembly
POWER TRANSFORMER T2001 ATS1185
J13
SUB
FL AC
SUB GND
FL AC
SUB
MAIN 1
MAIN 1
MAIN 2
MAIN 2
MAIN GND
MAIN GND
MAIN 2
MAIN 2
MAIN 1
MAIN 1
S2002 AKX-507 LINE VOLTAGE SELECTOR SWITCH AC110/120-127/220/240V
To AF assembly
J13

9. CONNECTIONS


①
②
③
④
⑤
⑥
R
L
⑦
⑧
DC-Z92
⑨
⑩
⑪
L
R
⑫
⑬
⑭
⑮
ANALOG
R
L
R
L
INPUT
OUTPUT

Illustraion shows U.K. model

Refer to page 85 for the connections diagram.

① Accessory FM antenna
② Accessory AM loop antenna
③ FM/AM tuner (F-Z92 or F-Z92L)
④ Turntable (Separately sold PL-Z82 or PL-Z92)
⑤ Tuner input/output cord
⑥ Surround speaker system
⑦ CD player control cord
⑧ Cassette tape deck amplifier
⑨ Turntable output cord
⑩ Speakers cord
⑪ Speaker system
⑫ Power cord
⑬ CD player (Separately sold PD-Z72T or PD-Z82M)
⑭ Digital audio tape deck (DAT) or video cassette recorder (VCR)
⑮ AC wall socket

Plug the power cord into the AC wall socket outlet only after all the connections have been completed.

If the FM antenna terminal of the FM/AM tuner is a PAL connector only, then refer to connection diagram B.

Proceed as follows with the set-up and connections.

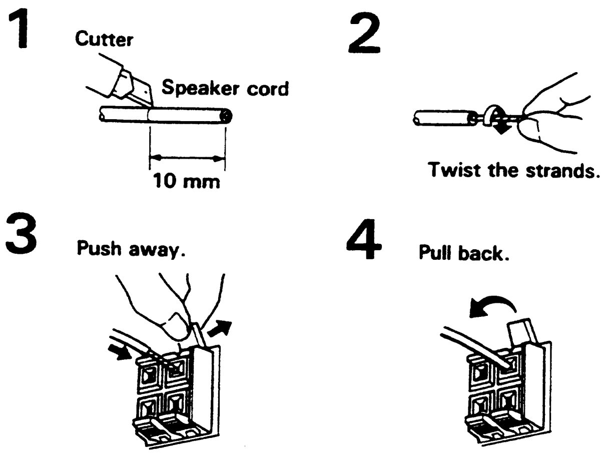
1. **Place the cassette tape deck amplifier on top of the CD player.**
2. **Connect the CD player OUTPUT jacks to the cassette tape deck amplifier CD INPUT jacks with audio cords.**
3. **Place the tuner on top of the cassette tape deck amplifier.**
4. **Connect the tuner input/output cord ⑤ to cassette tape deck amplifier.**
   TUNER CONNECTION (Page 3, diagram C)
   Insert the connector until it locks, thus ensuring that it is connected. When disconnecting the connector, pull it in the opposite direction while pressing the left and right claws.
   If using this unit together with the optional PD-Z72T or PD-Z82M, connect the control cord ⑦.
5. **Connect the FM antenna ① and the AM loop antenna ② to the tuner's antenna terminals.**
6. **Place the turntable on top of the tuner.**
7. **Connect the turntable's cords ⑨ to the cassette tape deck amplifier's jacks.**
   If using this unit together with the optional PL-Z82 or PL-Z92, connect the turntable's audio cords and power supply cord respectively to the cassette tape deck amplifier's PHONO jacks and DC 12V OUTPUT jack.
   If using a different turntable, connect the audio cord and earth cord.
8. **Use the "DAT/VIDEO" jacks for connection to the audio input/output jacks of a DAT or VCR.**
   If connecting an LD player, connect the LD player's audio output jacks to the "DAT/VIDEO" input jacks.

NOTE:

- *Insert the plugs securely into the jacks. Improper connection can lead to sound distortion or malfunctioning.*
- *The white plug is for the left channel connection and the red plug for the right channel connection.*

9. **Connect the speaker cords ⑩ to the SPEAKERS terminals.**
   Connect the "+" terminals on the cassette tape deck amplifier to the "+" terminals on the speakers, the "−" terminals on the cassette tape deck amplifier to the "−" terminals on the speakers.

Connecting the speaker cords.

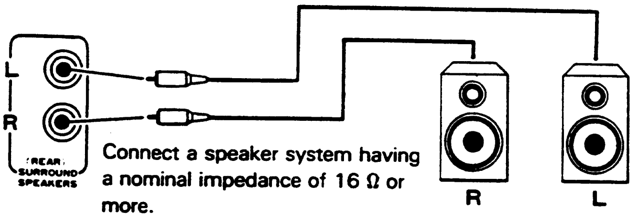


NOTE:
Do not allow the conductors of the cords to project beyond the terminals and to come into contact with other conductors. A breakdown or failure may occur when conductors touch one another.

Speaker impedance
Connect speaker systems with a nominal impedance of between 6 and 16 Ω.

Surround speaker connection

Connect the plugs properly.



Connect a speaker system having a nominal impedance of 16 Ω or more.

10. **Finally, connect the power cord ⑫ to the AC wall socket ⑮.**

What is surround sound?

With ordinary stereo, sound normally comes only from speakers in front of the listener. In a concert hall or theater though, sound reflected from the walls and ceiling reaches the listener from all directions. This is what accounts for the feeling of ambience or spaciousness of a live performance.
Surround sound works to reproduce these effects to produce fuller, more "live" sound.

STEREO WIDE
When the surround speakers are not connected, the stereo wide function will be activated. This function enhances the stereo effect. Note that it does not operate in the case of a monaural source, however.

Speaker System Placement Examples

The sound effects obtained in a surround system depend on speaker placement. Experiment with various arrangements to find the one most suited to your tastes.
Placing the speakers so that they are slightly higher than ear level contributes to sound quality.

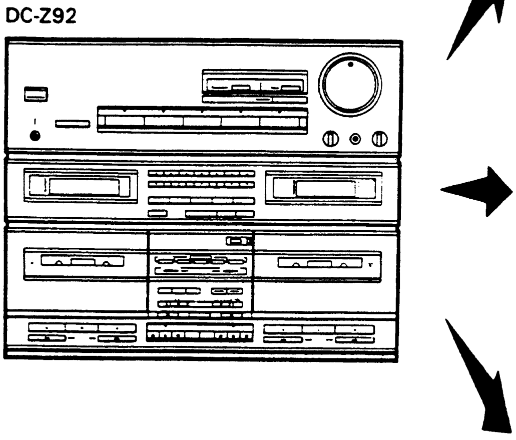
[Case A]
Good sound dispersion; recommended for movies, etc.

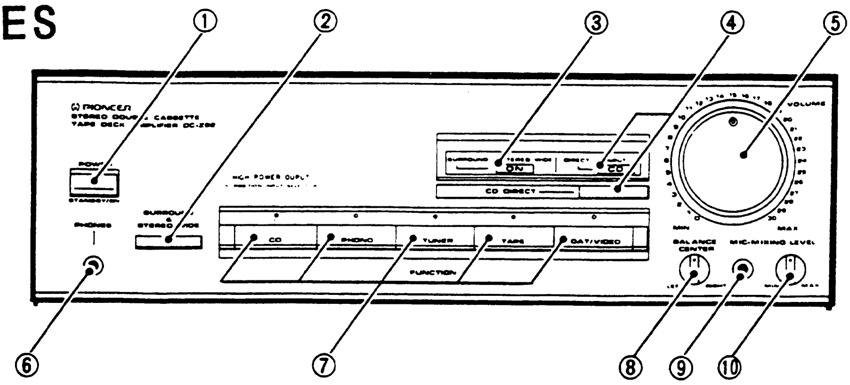
[Case B]
Sound appears to come from directly in front of listener. Good for listening to music recordings.

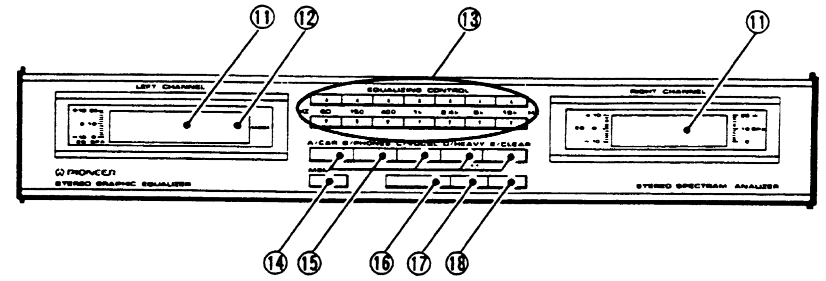
[Case C]
Offers most varied effects; good for watching sports programs or listening to live recordings.

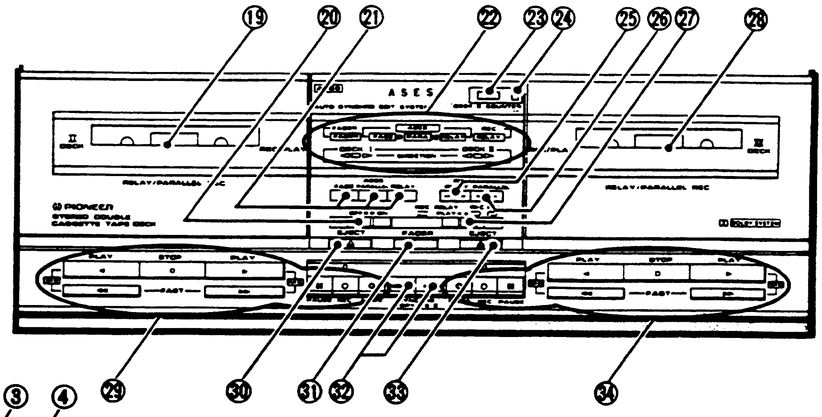
10. PANEL FACILITIES

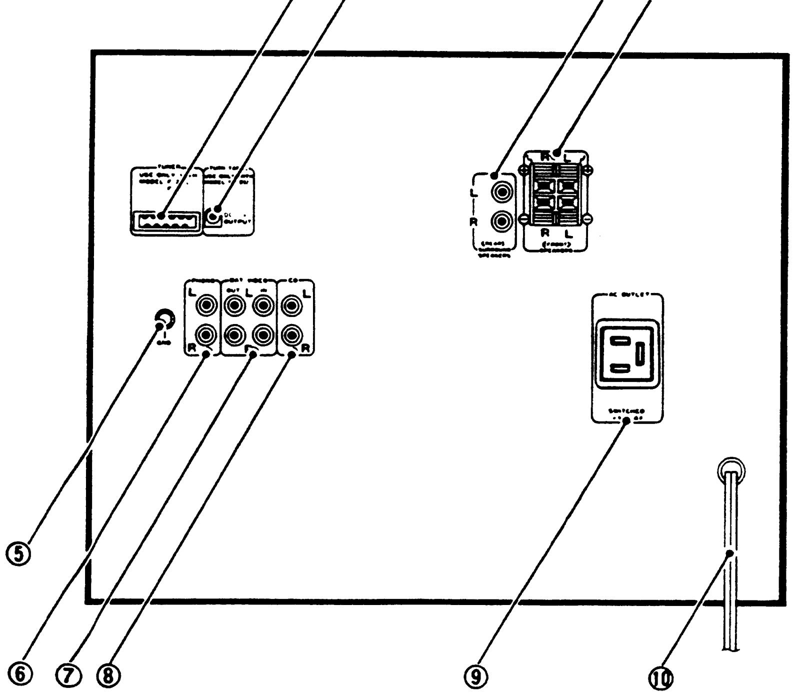
DC-Z92

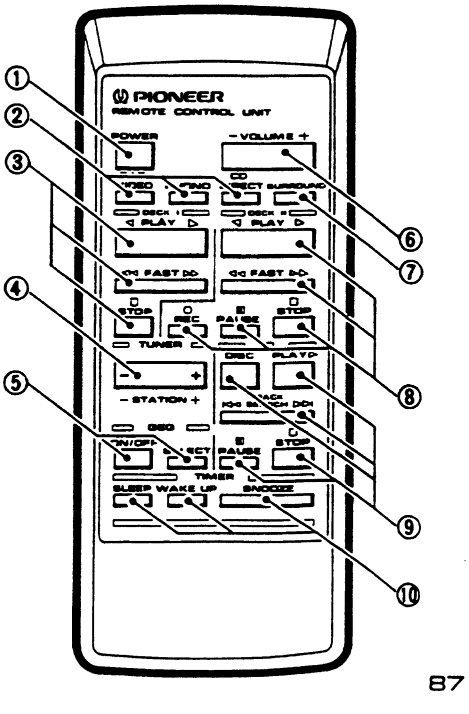



①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
PIONEER
STEREO DOUBLE CASSETTE TAPE DECK AMPLIFIER DC-Z92
POWER
STANDBY/ON
PHONES
SURROUND & STEREO WIDE
HIGH POWER OUTPUT
SURROUND
STEREO WIDE
ON
DIRECT
INPUT
CD
CD DIRECT
CD
PHONO
TUNER
TAPE
DAT/VIDEO
FUNCTION
VOLUME
MIN
MAX
BALANCE CENTER
LEFT
RIGHT
MIC-MIXING LEVEL


⑪
⑫
⑬
⑪
LEFT CHANNEL
EQUALIZING CONTROL
60
150
400
1k
2.4k
6k
15k
RIGHT CHANNEL
A/CAR
B/PHONES
C/VOCAL
D/HEAVY
E/CLEAR
PIONEER
STEREO GRAPHIC EQUALIZER
STEREO SPECTRUM ANALYZER
⑭
⑮
⑯
⑰
⑱


⑲
⑳
㉑
㉒
㉓
㉔
㉕
㉖
㉗
㉘
ASES
AUTO SYNCHRO EDIT SYSTEM
DECK I
DECK II
II DECK
III DECK
RELAY/PARALLEL REC
PIONEER
STEREO DOUBLE CASSETTE TAPE DECK
DOLBY SYSTEM
EJECT
FADER
EJECT
PLAY
STOP
PLAY
FAST
REC PAUSE
㉙
㉚
㉛
㉜
㉝
㉞


①
②
③
④
L
R
SPEAKERS
R
L
PHONO
VIDEO
OUT
IN
CD
L
R
GND
AC OUTLET
SWITCHED
⑤
⑥
⑦
⑧
⑨
⑩


PIONEER
REMOTE CONTROL UNIT
POWER
− VOLUME +
VIDEO
PHONO
CD DIRECT
SURROUND
DECK I
DECK II
◁ PLAY ▷
◁ PLAY ▷
◁◁ FAST ▷▷
◁◁ FAST ▷▷
STOP
REC
PAUSE
STOP
TUNER
CD
− STATION +
DISC
PLAY
BACK SEARCH
ON/OFF
SELECT
PAUSE
STOP
TIMER
SLEEP
WAKE UP
SNOOZE
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩

REAR PANEL FACILITIES

Cassette tape deck amplifier: DC-Z92

① TUNER jack
Connect the F-Z92 (or F-Z92L) FM/AM tuner.

② TURNTABLE OUTPUT jack
This jack supplies power to the PL-Z82 or PL-Z92.

③ SURROUND SPEAKERS jacks
Connect the Surround speaker systems.

NOTE:
Connect a speaker system having a nominal impedance of 16Ω or more.

④ SPEAKERS terminals
L: Connect the left speaker system as seen from the listening position.
R: Connect the right speaker system as seen from the listening position.

NOTE:
Connect a speaker system having a nominal impedance ranging from 6Ω to 16Ω.

⑤ Ground terminal (GND)
Connect this to the ground terminal on the turntable (except for PL-Z92 and PL-Z82).

⑥ PHONO input jacks
Connect the audio output cord on the turntable to these jacks.

⑦ DAT/VIDEO jacks
IN: Connect to audio output jacks of DAT, LD player or VCR, etc.
OUT: Connect to audio input jacks of DAT or VCR, etc.

⑧ CD input jacks
Connect to audio output jacks of CD player.

⑨ AC OUTLET (SWITCHED 100 W MAX)
Power supplied through these outlets is turned on and off by the cassette tape deck amplifier's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.
This can cause the cassette tape deck amplifier to malfunction.

⑩ Power cord
Connect this to the AC wall socket.

FRONT PANEL FACILITIES

Cassette tape deck amplifier: DC-Z92

- This unit has an automatic tape selector.
- Recording and playback are possible on both deck I and II.
- Sound can be recorded as adjusted by the graphic equalizer.

◪ Amplifier section

① POWER STANDBY/ON switch
When this switch is set to the on position, power is supplied to the cassette tape deck amplifier's main circuit. The POWER unit's switch is geared to selecting the transformer's secondary so that even in STANDBY position, the unit's circuitry will work as long as the power cord is connected to a power outlet. Disconnect the power cord from the power outlet when you do not plan to use the unit for a long period of time.
The unit is in STANDBY when the tuner section display indicates only the time.

② SURROUND & STEREO WIDE switch
When surround speaker systems are connected to the SURROUND SPEAKERS jacks at the rear: By turning this switch ON, you can enjoy surround reproduction.
When surround speaker systems are not connected: By turning this switch ON, you can enjoy STEREO WIDE reproduction with greater left-right spread.

NOTE:
- *In the case of a monaural source, a SURROUND & STEREO WIDE effect cannot be obtained.*
- *SURROUND & STEREO WIDE function does not operate if CD DIRECT is on.*

③ SURROUND & STEREO WIDE indicator
Lights when the SURROUND & STEREO WIDE switch is on.

④ CD DIRECT switch/indicator
Press this switch to listen to a CD without passing the signal through sound quality adjustment circuits.

⑤ VOLUME control

⑥ Headphone jack (PHONES)
For stereo headphone plug.

⑦ FUNCTION switches/indicators
[CD]
Press to listen to a CD player connected to the CD jacks.
[PHONO]
Press to play records on a turntable connected to the PHONO jacks.
[TUNER]
Press to listen to a radio broadcast.
[TAPE]
Press to listen to a cassette tape.
[DAT/VIDEO]
Press to listen to a stereo component connected to the DAT/VIDEO jacks.

⑧ BALANCE control
Usually set this control to the central position. If turned counterclockwise, the volume of the right channel will decrease.
If turned clockwise, the volume of the left channel will decrease.

⑨ Microphone (MIC) jack
This is a standard jack for connecting a microphone.
Mic mixing is not possible when CD DIRECT is on.

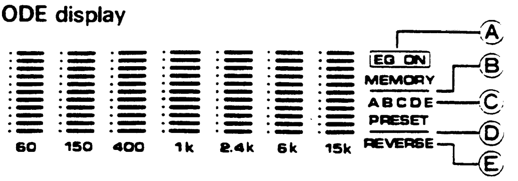
⑩ MIXING LEVEL control
Use to adjust volume of microphone and playback sound.

Graphic Equalizer section

⑪ Graphic equalizer/Spectrum analyzer display

Ordinarily this shows the spectrum analyzer display. It shows a graphic equalizer display during operation of the EQUALIZING CONTROL switches.

⑫ MODE display



Ⓐ EQ ON indicator
Lights when the EQUALIZER switch is set to ON. When this indicator is lit, the graphic equalizer can be used to adjust sound quality.

Ⓑ MEMORY indicator
When the line is lit under "MEMORY", it indicates that the equalization curves memorized in the memory recall switches can be recalled.

Ⓒ A - E indicators
Indicates which equalization curve is currently recalled.

A: Curve stored in A/CAR.
B: Curve stored in B/PHONES.
C: Curve stored in C/VOCAL.
D: Curve stored in D/HEAVY.
E: Curve stored in E/CLEAR.

Ⓓ PRESET indicator
When the line is lit under "PRESET", it indicates that the equalization curves preset in the memory recall switches can be recalled.

Ⓔ REVERSE indicator
Lights when the FLAT/REVERSE switch is used to invert the equalization curve.

⑬ EQUALIZING CONTROL switches

These strengthen or weaken the indicated frequency band. Press the upper switch to emphasize; press the lower switch to attenuate.

⑭ MEMORY switch

Use to store equalization curves in the memory recall switches.

⑮ Memory recall switches

Use to recall equalization curves.

⑯ EQUALIZER switch

Turns the equalizer on and off. The EQ ON indicator lights when this switch is on.

The equalizer can not be used to adjust the sound when CD DIRECT is on.

⑰ FLAT/REVERSE switch

Press once to reset the equalizer to flat response (no equalization). Press again to reverse the previous curve (boosted frequencies will be reduced, and vice versa).

⑱ PRESET/MEMORY switch

Determines whether the equalizer curves recalled by the Memory recall switches will be your own programmed memorized curves or the factory preset curves.

Cassette Tape Deck Section

⑲ Deck I cassette door

⑳ DOLBY* NR switch

Set this switch to the ON position to activate the DOLBY NR system.

- Tapes recorded using Dolby noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby NR system on.

- It is recommended that tapes recorded using Dolby B NR be so marked on the label. This will help to prevent incorrect setting of the noise reduction switch during playback.

㉑ ASES switch

Use to automatically record a CD on cassette tape.

FADE:	The sound will fade out at the end of the tape.
PARALLEL:	Deck I and Deck II record at the same time.
RELAY:	Recording continues on Deck II after tape ends on Deck I. If using this unit together with the PD-Z72T CD player, Deck II will record disc II after Deck I finishes recording disc I.

Using ASES after putting both decks I and II into the stop mode.

㉒ Operation indicators

FADER: lights when the FADER switch is on.
ASES
  FADE: fade edit in progress.
  PARA: parallel edit in progress.
  RELAY: relay edit in progress.
RELAY REC: indicates relay recording in progress using Deck I and Deck II.
Direction (◄, ►): Indicates direction of tape travel during recording or playback. Flashes slowly in pause mode. Flashes rapidly during Music Search (MS).

㉓ DECK II COUNTER

㉔ Counter reset switch

Press this switch to reset the Deck II tape counter display to 000.

㉕ RELAY RECORDING switch

Use for relay recording from Deck I to Deck II.
Deck II starts recording when Deck I finishes.
Use after putting both decks I and II into the stop mode.

㉖ PARALLEL RECORDING switch

Deck I and Deck II record at the same time.
Use after putting both decks I and II into the stop mode.

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* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol DD are trademarks of Dolby Laboratories Licensing Corporation.

㉗ REVERSE MODE switch

Switch position	During playback	During recording
REC ⇄ RELAY PLAY	Plays both tape sides. When one deck finishes playback, the other side begins playback of both tape sides. (6 times maximum). If there is a tape in only one deck, then that deck continuously plays both sides of the tape. (6 times maximum).	Records on one side.
REC ⊃ PLAY ⊂⊃	Plays both sides continuously. (6 times maximum.)	Records on both sides.

㉘ Deck II cassette door

㉙ Deck I Operation switches

▶ PLAY (FWD)	For playing back a tape in the forward mode.
◀ PLAY (REV)	For playing back a tape in the reverse mode.
■ STOP	For stopping the tape.
▶▶ FAST	Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.
◀◀ FAST	Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.
❚❚ PAUSE	Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY switch.
● REC	Sets recording standby mode.The REC indicator lights and the DIRECTION indicators (◀ and ▶) flash. Recording will then begin when you press the PLAY switch (◀ or ▶).
○ MUTE	A blank no-signal area is recorded on the tape while this is kept depressed while recording. Useful for creating gaps between songs.

㉚ Deck I EJECT switch

㉛ FADER switch

This switch is used to gradually fade out a recorded loaded tape in deck II. (The sound will be completely cut off after approximately 10 seconds and the tape will stop.)

㉜ SYNCHRO COPY switches

Use for tape copying.

NORM: Copying from the Deck I tape to the Deck II tape at normal recording/playback speed.

HIGH: Copying at about twice normal tape speed. (Copies can be made in about half the NORM time.)

㉝ Deck II EJECT switch

㉞ Deck II Operation switches

▶ PLAY (FWD)	For playing back a tape in the forward mode.
◀ PLAY (REV)	For playing back a tape in the reverse mode.
■ STOP	For stopping the tape.
▶▶ FAST	Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.
◀◀ FAST	Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.
❚❚ PAUSE	Temporarily stops tape travel. Cancels pause mode when pressed again or press the PLAY switch.
● REC	Sets recording standby mode.The REC indicator lights and the DIRECTION indicators (◀ and ▶) flash. Recording will then begin when you press the PLAY switch (◀ or ▶).
○ MUTE	A blank no-signal area is recorded on the tape while this is kept depressed while recording. Useful for creating gaps between songs.

Remote control unit

① POWER key

② Function keys

DAT/VIDEO	Sets function to DAT/VIDEO.
PHONO	Sets function to PHONO.
CD DIRECT	Sets function to CD DIRECT.

③ DECK I operation keys

▶	Forward play
◀	Reverse play
■	Stop
▶▶	Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.
◀◀	Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.

④ TUNER STATION key

- Before operation, memorize broadcast stations in the STATION CALL switches.

+	Stations change in order in the upward direction
−	Stations change in order in the downward direction.

⑤ Graphic equalizer (GEQ) operation keys.

ON/OFF: Turns the equalizer on and off.

SELECT: Recalls the preset equalization curves (PRESET) and memorized equalization curves (MEMORY) in sequence.

⑥ VOLUME UP (+)/DOWN (−) keys

⑦ SURROUND key

Turns SURROUND & STEREO WIDE on and off.

⑧ DECK II operation keys

▶	Forward play
◀	Reverse play
▶▶	Fast forward in forward mode, rewind in reverse mode. Music search (MS) starts if this is pressed during playback.
◀◀	Rewind in forward mode, fast forward in reverse mode. Music search (MS) starts if this is pressed during playback.
■	Stop
❚❚	Pause
●	REC (recording standby). Next, press the play key to begin recording.

⑨ CD operation keys

Perform the connections so that the CD player is operated by the remote control unit.

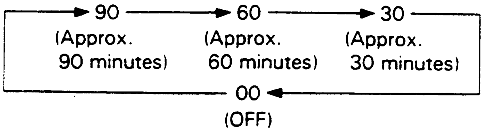
►	Play
DISC	DISC selection
■	Stop
❚❚	Pause
⏮, ⏭	Track search

NOTE:

Note that the DISC selector key on the accessory remote control unit may not function, depending on the CD player used.

⑩ Timer operation keys

SLEEP: Sets the sleep timer. Each time you press this key, the setting changes as shown here. The current setting is shown on the tuner display.
Power turns off when your set time has elapsed.



If you press the SLEEP key during SLEEP operation, the display will show the time remaining till power turns off.

WAKE-UP: Timer playback setting/cancellation can be performed when the timer playback time has been set. This is shown in the tuner display section.

SNOOZE: Turns off power if pressed after timer playback begins. Timer playback begins again approx. 5 minutes later.

The amplifier section function automatically switches to the music source being operated when you press the CD playback (►), cassette tape deck playback (◄, ►), or tuner station controls.
To operate with the remote control unit, use the keys with the same function indicating symbols (for example ►) as those shown on the components.

NOTE:

It is not possible to operate the CD player with the remote control unless the remote control cord is connected (refer to page 2)

Range of remote control

When the remote control unit is pointed at the remote sensor window on the tuner and any of its keys is pressed, the tuner and other components can be operated by remote control.
Distance: Within a range of approx. 7 meters from the remote sensor window on the tuner.
Angle: Within approx. 30 degrees from the center of the remote sensor window on the tuner.
Remote control will not be possible if there is an obstacle between the remote control unit itself and the remote sensor window on the tuner.

11. SPECIFICATIONS

Cassette tape deck amplifier: DC-Z92

AMPLIFIER SECTION

Continuous Average Power Output is 50 Watts* per channel, min., at 8 ohms from 40 Hertz to 20.000 Hertz, with no more than 0.3% total harmonic distortion.

**Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.*

Music power	90 W + 90 W (1 kHz, T.H.D. 1%, 8 ohms)
Music power (DIN)	90 W + 90 W (1 kHz, T.H.D. 1%, 8 ohms)
Peak music power	390 W (8 ohms)
Continuous Power Output (DIN)	60 W + 60 W (1 kHz, T.H.D. 1%, 8 ohms)
Graphic equalizer frequency band	60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz, ±7 dB
Signal-to-Noise Ratio (IHF, short-circuited, A network)	
PHONO	72 dB
Signal-to-Noise Ratio (DIN, continuous Power/50 mW)	
PHONO	68 dB/60 dB
Total Harmonic Distortion (40 Hz to 20,000 Hz, 30 W, 8 ohms)**	No more than 0.2%

Tape Deck Section

Systems	4 track, 2-channel stereo
Heads	Recording/playback head x 2 Erasing head x 2
Motor	DC servo 2 speed motor x 2
Wow and Flutter	No more than 0.09% (WRMS)
Fast Winding Time	Approximately 95 seconds (C-60 tape)
Frequency Response (−20 dB recording):	
Normal tape	35 Hz to 14,000 Hz ±6 dB
CrO_2 tape	35 Hz to 15,000 Hz ±6 dB
Metal tape	35 Hz to 16,000 Hz ±6 dB
Signal-to-Noise Ratio	
Dolby NR OFF	56 dB
Noise Reduction Effect	
Dolby B type NR ON	More than 10 dB (at 5 kHz)

Furnished Parts

Operating Instructions	1
Remote control unit	1
Dry cell batteries	2

Miscellaneous

Power requirements	
U.K. and Australian models	a.c. 240 Volts ∼, 50/60 Hz
Other destination models	AC 110/120 - 127/220/240 V (switchable) 50/60 Hz
Power Consumption	426 W
Dimensions	360 (W) x 287 (H) x 334 (D) mm 14-3/16 (W) x 11-5/16 (H) x 13-1/8 (D) in
Weight (without package)	9.2 kg (20 lb 5 oz)

Accessories

EP Adaptor	1

- *Specifications and design subject to possible modification without notice due to improvement.*

***Measured By Audio Spectrum Analyzer.*